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Dated: August 26, 2003

By: 

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PATENT

Customer No. 22,852

Attorney Docket No. 05725.0489

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:)
)
Gérard LANG et al.) Group Art Unit: 1751
)
Application No.: 09/424,116) Examiner: M. Einsmann
)
Filed: January 6, 2000)
)
For: OXIDATION DYEING COMPOSITION)
FOR KERATINOUS FIBRES)
CONTAINING A 3-AMINOPYRIDINE AZO)
DERIVATIVE AND DYEING METHOD)
USING SAID COMPOSITION)

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Commissioner for Patents

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Alexandria, VA 22313-1450

Sir:

SECOND APPEAL BRIEF UNDER 37 C.F.R. § 1.192

In support of the Second Notice of Appeal filed July 11, 2003, and pursuant to 37 C.F.R. § 1.193(b)(2), Appellants present in triplicate this brief.

This second appeal is in response to the Examiner's rejections in the Office Actions dated May 8, 2001, and February 12, 2003, of claims 26-60, which are set forth in the attached Appendix I. If any additional fees are required or if the enclosed payment is insufficient, Appellants request that the required fees be charged to Deposit Account No. 06-0916.

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I. Real Party In Interest

L'Oréal, S.A. is the assignee of record.

II. Related Appeals and Interferences

Appellants, Assignee, and Appellants' undersigned legal representative know of no other appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal. However, in an abundance of caution, Appellants' undersigned legal representative notes that Appeal No. 2003-0465 for Application No. 09/424,119 was decided by the Board in a decision dated June 19, 2003.

III. Status Of Claims

Claims 26-60 are pending in this application. No claim has been allowed. Claims 26-60 have been finally rejected.

IV. Status Of Amendments

A response under 37 C.F.R. § 1.116, filed on August 1, 2001, was entered. No claim has been amended.

V. Summary Of Invention

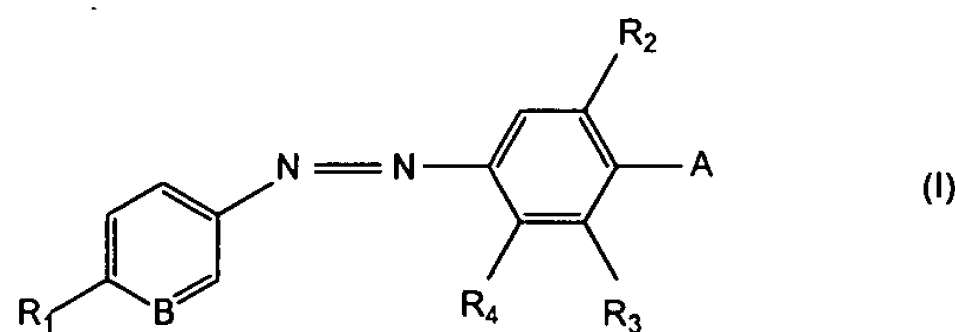
The invention relates to a composition for the oxidation dyeing of keratin fibres, for example human keratin fibres such as the hair, comprising, in a medium which is suitable for dyeing, at least one oxidation base, at least one 3-aminopyridine derivative as direct dye, and at least one substituted meta-aminophenol as coupler, as well as to the dyeing process using this composition. (Specification, pg. 1, ln. 4-11.)

As disclosed in the specification, it is possible to obtain novel dyes which are capable of giving intense and chromatic colorations, which show little selectivity and which satisfactorily withstand the various attacking factors to which the fibres may be

subjected, by combining at least one oxidation base, at least one suitably selected 3-aminopyridine derivative as direct dye, and at least one suitably selected meta-aminophenol derivative. (Specification, pg. 3, ln. 10-18.)

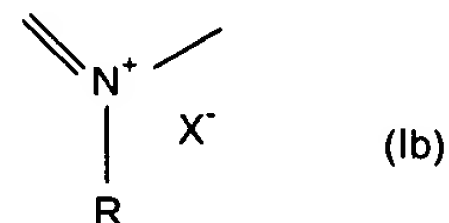
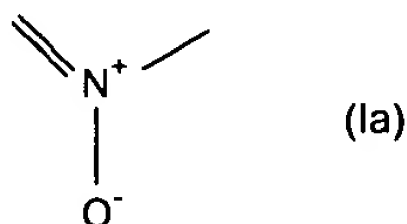
According to one embodiment, there is composition for the oxidation dyeing of keratin fibers comprising:

- a) at least one oxidation base, and
- b) as direct dye, at least one 3-aminopyridine derivative chosen from the compounds of formula (I):

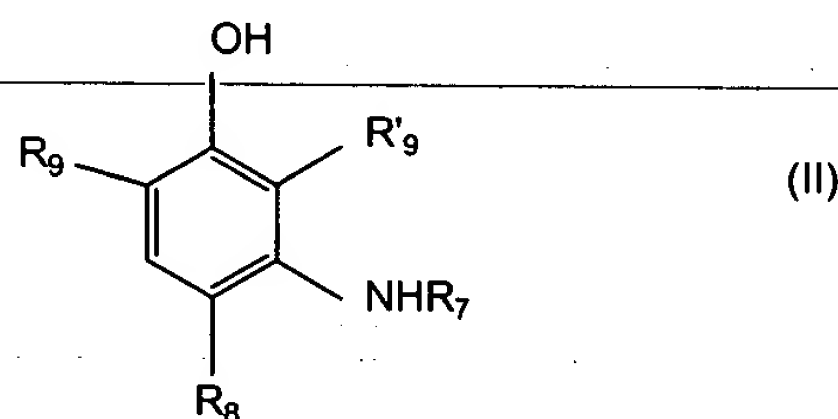


in which:

- B is chosen from formula (Ia) and (Ib):



- R is a C₁-C₄ alkyl radical;
 - R₁ is chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, and a C₁-C₄ alkoxy radical;
 - R₂ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, and a C₁-C₄ alkoxy radical;
 - R₄ is chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, a nitro, an amino radical and a (C₁-C₄)acylamino radical;
 - R₃ is a hydrogen atom, or R₄ and R₃ together form a 6-membered unsaturated ring bearing a hydroxyl substituent chelated with one of the nitrogen atoms of the azo double bond;
 - A is a residue -NR₅R₆ in which R₅ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical and C₂-C₄ polyhydroxyalkyl radical and R₆ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, a phenyl ring and a -CH₂-SO₃Na radical;
 - X⁻ is chosen from a monovalent anion and a divalent anion, and
- c) at least one coupler chosen from a meta-aminophenol derivative of formula (II), and an addition salt thereof with an acid:



in which:

- R₇ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical and a C₁-C₄ monoaminoalkyl radical;
 - R₈ is chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, and a C₁-C₄ alkoxy radical;
 - R₉ and R'₉, which are identical or different, are chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ alkoxy radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, a C₁-C₄ monohydroxyalkoxy radical and a C₂-C₄ polyhydroxyalkoxy radical;
- with the proviso that at least one of the substituents R₇, R₈, R₉ and R'₉, is not a hydrogen atom. (Specification, pg. 3, ln. 21 - pg. 6, ln. 7.)

VI. Issues

- A. Whether claims 26-60 are patentable under 35 U.S.C. § 103(a) over U.S. Patent No. 5,919,273 to Rondeau *et al.*
- B. Whether claims 26-60 are patentable under the judicially created doctrine of obviousness-type double patenting over claim 1-43 of U.S. Patent No. 5,919,273 to Rondeau *et al.*
- C. Whether claims 26-36 and 40-60 are patentable under 35 U.S.C. § 103(a) over U.S. Patent No. 4,025,301 to Lang in view of U.S. Patent No. 4,588,410 to Konrad *et al.*
- D. Whether claims 37-39 are patentable under 35 U.S.C. § 103(a) over U.S. Patent No. 4,025,301 to Lang in view of U.S. Patent No. 4,588,410 to Konrad *et al.* and further in view of U.S. Patent No. 6,001,135 to Rondeau *et al.*

VII. Grouping Of Claims

Each claim of this patent application is separately patentable, and upon issuance of a patent will be entitled to a separate presumption of validity under 35 U.S.C. § 282.

For convenience in handling this Appeal, however, for each ground of rejection the

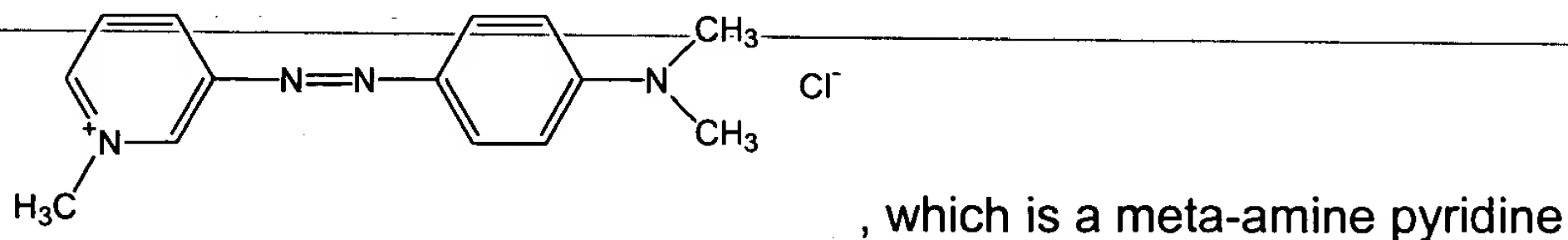
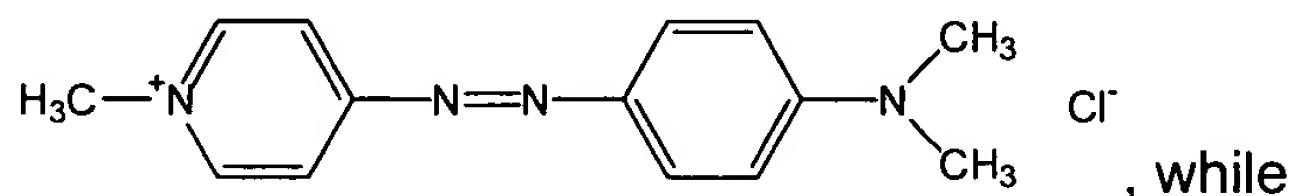
claims rejected on that ground will be grouped in one group. Thus, pursuant to 37 C.F.R. § 1.192(c)(7), in this Appeal, for each ground of rejection, the claims rejected on that ground will stand or fall together.

VIII. Argument

A. **Claims 26 – 60 are Patentable Under 35 U.S.C. § 103(a) Over U.S. Patent No. 5,919,273 to Rondeau *et al.***

Claims 26-60 stand rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,919,273 to Rondeau *et al.* (Rondeau '273). The Examiner contends that "[i]t would have been obvious ... to formulate a composition ... [according to the presently claimed invention] because Rondeau ['273] teaches compositions, processes and kits which includes a position[al] isomer of applicant's claimed dye." (Office Action of February 12, 2003, pg. 9, ln. 13-16.) The Examiner specifically bases the rejection on Rondeau '273 dye II-30, which the Examiner characterizes as a positional isomer of a cationic direct dyes according to the presently claimed invention. (Office Action of July 31, 2002, pg. 8, ln. 3-7.)

The cited cationic direct dye II-30 of Rondeau '273 is a para-amine pyridine compound having the following formula:



compound, is a cationic dye within the scope of formula (I) according to Appellants' claim 26. Appellants acknowledge that the two compounds are formally related as

structural isomers, but contend that the presently invention is not rendered obvious in view of this relationship.

The presently claimed invention is not obvious in view of Rondeau '273 at least because (1) a compound does not always render prima facie obvious its isomers, (2) there is no evidence of a reason or motivation to modify Rondeau '273 dye II-30 as proposed by the Examiner, and (3) objective evidence demonstrates that isomers in the dyeing arts are not equivalent and therefore are not suggestive of each other. Thus, not only is there an absence of any evidence to support a conclusion of obviousness, the objective facts show that the only basis for focusing on compound II-30 from Rondeau '273 and for selecting the particular isomer is hindsight reconstruction contrary to the knowledge and perspective of one skilled in the art. For at least these reasons, discussed further below, the rejection is in error and should be reversed.

**1. LEGALLY, AN ISOMER IS ONLY PRIMA FACIE OBVIOUS
IF THERE IS EVIDENCE OF A REASON OR MOTIVATION
TO MAKE THE COMPOUND.**

The rejection is premised on the principle that "[c]losely related ... isomers in chemistry may create a prima facie case of obviousness." (Office Action of February 12, 2003, pg. 9, ln. 19 – pg. 10, ln. 2 (citations omitted, emphasis added).) Of course, the operative word here is "may" since, even if a species may, in some circumstances, render obvious its positional isomer, there is no *per se* rule that all chemical species in all arts will render obvious all their isomers. In fact, in order to establish a prima facie case of obviousness based on similar chemical structure, the Examiner must show that "the prior art gives reason or motivation to make the claimed compositions" *In re*

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Dillon, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990).¹ In this case, however, the Examiner has only asserted that an isomer is prima facie obvious, and has not cited any evidence of a motivation for the proposed modification of dye II-30. Further, as discussed below, the art does not provide any reason or motivation to modify dye II-30.

2. THERE IS NO EVIDENCE BASED ON RONDEAU '273 OF A REASON OR MOTIVATION TO MAKE A COMPOUND ACCORDING TO THE PRESENT INVENTION.

The Examiner has not cited, and Rondeau '273 does not contain, any "reason or motivation to make the claimed compositions" *Dillon* at 1901. Thus, even if "isomers in chemistry may create a prima facie case," there is no basis for asserting that dye II-30 of Rondeau '273 renders obvious each and every one of its isomers.

In fact, the rejection is fatally flawed in absence of "concrete evidence" that, in *this particular case*, dye II-30 of Rondeau '273 renders obvious all of its positional isomers. *In re Zurko*, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001). There is simply no objective source of evidence supporting the Examiner's position that Rondeau '273 dye II-30 would have suggested any or all of its positional isomers. A rejection such as the present one where the required elements of a prima facie case are supported only by "subjective belief and unknown authority" are improper and should be reversed. *In re Lee*, 61 USPQ2d 1430, 434 (Fed. Cir. 2002).

There is nothing in Rondeau '273 pointing towards dye II-30 over the numerous other dyes disclosed in the reference, nor is there anything pointing towards the undisclosed isomer identified by the Examiner. Rather, it is evident that impermissible

¹ The M.P.E.P. similarly states that "[i]somers ... are not necessarily considered equivalent by chemists skilled in the art and therefore are not necessarily suggestive of each other." M.P.E.P. § 2144.09, citing *Ex parte Mowry*, 91 USPQ 219 (Bd. App. 1950).

hindsight is the only basis for focusing on Rondeau's dye II-30, or the particular isomer that is undisclosed and is not even within the scope of Rondeau '273's disclosed genus of direct dyes.

- a. **Dye II-30 is one of a large number of direct dyes exemplified in Rondeau '273, and the specification points away from II-30 towards other particularly preferred dyes.**

Rondeau '273 exemplifies more than forty direct dyes within the scope of its general formula II. (Rondeau '273, col. 8, ln. 50 – col. 14, ln. 25.) There is nothing in Rondeau '273 to direct one to focus on or choose dye II-30 from among all the other disclosed compounds. In fact, four compounds in Rondeau '273 are called out as being particularly preferred, but none of these is dye II-30. (Rondeau '273, col. 14, ln. 27-29 (“Among the compounds of structures (II1) to (II43) described above, the compounds corresponding to structures (II1), (II2), (II14) and (II31) are more particularly preferred.”).) While Appellants recognize that a reference may be relied upon for non-preferred embodiments, *In re Lamberti*, 192 USPQ 278, 280 (CCPA 1976), the failure to consider a reference as a whole, including “disclosure in the reference that diverge from and teach away from the invention at hand,” is legal error. *W.L. Gore & Assoc. v Guardlock*, 220 USPQ 303, 311 (Fed. Cir. 1983). If one were to have focused on any particular dye according to general formula II of Rondeau '273 after reading this reference, it would have been one of the particularly preferred compounds and not dye II-30.

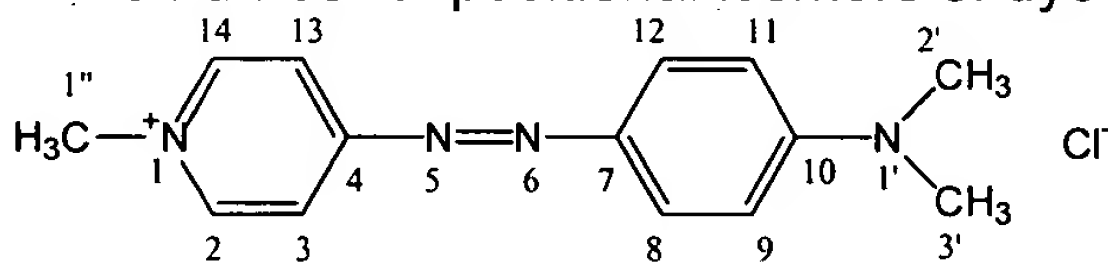
In view of the preference in Rondeau '273 for other direct dyes, and given the absence of any basis for selecting dye II-30, the only possible rational supporting the Examiner's focus on dye II-30 must be hindsight. This, of course, is impermissible.

E.g., Lee at 1433. As discussed below, the extensive reliance on hindsight is even more evident in view of the Examiner's unsupported selection of one of over 10,000 isomers of dye II-30, and the fact that this isomer is not even with the scope of Rondeau '273's generic dye formula II.

- b. Dye II-30 has over 10,000 different structural isomers, and there is no reason or motivation to make a compound according to the presently claimed invention.**

Even if the preference for other dyes was overlooked, or if there would have been a basis for one to have focused on dye II-30 of Rondeau '273, there would have still been no basis to consider the particular isomer suggested by the Examiner. The isomer of dye II-30 is outside the genus of Rondeau '273's direct dyes and dye II-30 has over 10,000 other structural isomers.² There is no valid scientific or legal basis for

² The number of positional isomers of dye II-30 of Rondeau '273,



, can be estimated based on the possibilities that (i) N at position 5 could be connected to any of positions 2 (assumed to be equivalent to position 14 for the purpose of calculating the number of positional isomers), 3 (assumed to be equivalent to position 13 for the purpose of calculating the number of positional isomers), or 4 (yields 3 options), (ii) N at position 6 could be connected to any of positions 7, 8 (assumed to be equivalent to position 12 for the purpose of calculating the number of positional isomers), or 9 (assumed to be equivalent to position 11 for the purpose of calculating the number of positional isomers) (yields 3 options); (iii) the amine group labeled 1' at least could be at any of positions 1, 2, 3, 8, 9, or 10 (yields 6 options); (iv) the methyl group labeled 1'' at least could be at any of positions 1, 2, 3, 8, 9, or 10 (yields 6 options), (v) the methyl group labeled 2' at least could be at any of positions 2, 3, 7, 8, or 9 or 1' (yields 6 options); and (vi) the methyl group labeled 3' at least could be at any of positions 2, 3, 7, 8, or 9 or 1' (yields 6 options). The product of these six options is 3 x 3 x 6 x 6 x 6 x 6 equals 11,664. This estimate does not even take into account other possibilities, such as positions 2 and 14, or 3 and 13, or 8 and 12, or 9 and 11 being non-equivalent for the purpose of calculating the number of positional isomers due to a third ring substituent, or that the piperidine (continued...)

asserting that each and every one of these isomers is prima facie obvious. In fact, the Examiner has not even asserted the existence of any such scientific or legal basis.

Further, assuming that the other forty two disclosed dyes according to formula II of Rondeau '273 have a similar number of isomers as dye II-30, the total number of isomers of exemplified species is over 400,000. By the logic of the Examiner's present rejection, all 400,000 of these isomers would be prima facie obvious absent any evidence of a motivation for making the modification or selecting the particular species. However, any logic that concludes that 400,000 undisclosed compounds are all prima facie is contemptuous of the principles of patent law which require specificity and an absence of hindsight reconstruction. *E.g., In re Fine*, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) ("One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."). It is equally improper to arbitrarily select and allege that one particular isomer is prima facie obvious.

**3. OBJECTIVE EVIDENCE DEMONSTRATES THAT
RONDEAU '273 DYE II-30 WOULD NOT HAVE
RENDERED OBVIOUS ITS ISOMERS.**

The Examiner contends that Rondeau '273 discloses "a dyrideneazo, dye II-30, which is a positional isomer of the dyes claimed in this application," and has made the unsupported conclusion that it "would have been obvious ... to formulate a composition for dyeing keratin hair containing the direct dyes as claimed with the substituted

aminophenol as claimed and oxidation bases as claimed because Rondeau ['273]

teaches compositions, processes and kits which include a positional isomer of

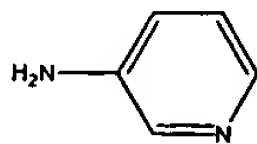
ring (the left hand ring) could be connected to any position of the benzyl ring (the right hand ring) and still be considered a positional isomer. Regardless of the assumptions, the number of positional isomers of dye II-30 is undeniably vast.

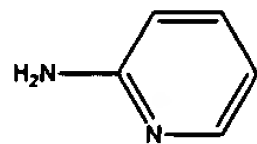
applicant's claimed dye." (Office Action of July 31, 2002, pg. 8, ln. 7-15) However, this conclusion of obviousness does not follow from the existence of an isomeric relationship. As noted above, an isomeric relationship, by itself, is not a showing that "the prior art gives reason or motivation to make the claimed compositions" *Dillon* at 1901. Further, when considered from the knowledge and perspective of one skilled in the art, it is likewise evident that rather than being considered equivalent, one would have expected isomers of dye II-30 to be non-equivalent and non-interchangeable because dye isomers are often substantially different in their functions and effects.

It is well known that isomers in the dyeing arts are not necessarily equivalent, and cannot be expected to have the same properties. For example, in the relatively simple case of a substituted phenol ring, an ortho or para substituted phenol ring (e.g., para-aminophenol) is the paradigm of an oxidation base while its meta isomer (e.g., meta-aminophenol) is the paradigm of the functionally distinct oxidation coupler. (See, e.g., C. Zviak, *The Science of Hair Care*, Marcel Dekker (1986), at 265.³) In this regard, there can be no doubt that in the dyeing art the properties and effects of isomerically related species are not necessarily similar to or predicable from one another.

³ "On white hair, deep shades can only be obtained using aromatic amines, or the aminophenols with amino and hydroxy groups in *ortho* or *para* positions to each other. Thus, the only compounds capable of producing the quinone monoimine or quinone diimine forms yield highly colored pigments through oxidation. ... The so-called *bases* or primary intermediates are the aromatic diamines, the diaminophenols, the aminophenols with amino or hydroxy groups *para* or *ortho* to each other. The 'modifiers' or *couplers* are the *m*-diamines, the *m*-aminophenols, and the polyphenols. Taken separately, all these modifiers yield only feeble color through oxidation"

The variability between isomers likewise extends to direct dyes. For example, Lang, U.S. Patent No. 4,025,301,⁴ teaches that its diazo-bridged heterocyclic direct

dyes, which are derived from meta-amino pyridine , have unique dye properties as compared to other azo dyes derived from the isomeric ortho-amino

pyridine . (Lang, col. 1, ln. 61-64.) The unpredictable and unexpected differences between the diazo-bridged direct dyes formed from these pyridine isomers is particularly relevant to the Examiner's proposal to similarly form a meta-amine pyridine isomer of Rondeau's para-amine pyridine direct dye.

Thus, in the dyeing arts, the properties of one dye are not predictive of those of its isomers. The fact that both ortho and meta substituted phenols may be oxidation dye components does not make them equivalent to or suggestive of each other. In fact, one functions as a base while the other functions as a coupler. It is likewise true that even if certain isomers of some direct dyes also may be used as direct dyes, since their dyeing properties may substantially differ, the isomers are not equivalent to or suggestive of each other. Accordingly, one skilled in the art would not expect that Rondeau '273 dye II-30 would be equivalent to all 10,000 of its isomers. For at least this reason, Rondeau '273 dye II-30 does not render obvious all of its isomers.

⁴ Lang is relied upon by the Examiner as the primary reference for other rejections under 35 U.S.C. § 103.

**4. CONCLUSION WITH RESPECT TO OBJECTIVE INDICIA
THAT DYE II-30 OF RONDEAU DOES NOT RENDER
PRIMA FACIE OBVIOUS ITS ISOMERS.**

The evidence shows that rather than expecting similar properties, the para-amine pyridine according to Rondeau '273 dye II-30 would be expected to have different properties than its meta-amine pyridine isomer. At the very least, there would have been no basis for an expectation that the para and meta isomers would have had the same properties. The Examiner cannot reasonably assert that Rondeau '273 dye II-30 renders obvious all its positional isomers absent some specific motivation to make the proposed structural modification. However, no specific motivation has been cited or is found in the record.

Accordingly, the existence of an isomeric relationship does not establish a prima facie case of obviousness absent, *inter alia*, a reason or motivation to substitute one isomer for another. Since no such motivation exists, the rejection is in error and should be reversed.

**B. Claims 26-60 Are Patentable Under The Judicially Created
Doctrine Of Obviousness-Type Double Patenting Over U.S.
Patent No. 5,919,273**

Claims 26-60 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1-43 of U.S. Patent No. 5,919,273, which is the same reference cited above (Rondeau '273) as the basis for a rejection under 35 U.S.C. § 103. Since the "analysis employed in an obviousness-type double patenting rejection parallels the guidelines for analysis of a 35 U.S.C. 103 obviousness determination ... [and] the factual inquiries set forth in *Graham v. John Deere Co* ... are employed when making an obvious-type double patenting analysis,"

M.P.E.P. § 804, the analysis of the deficiencies of this rejection is duplicative with section A, above, which is incorporated here by reference.

When considering whether the inventions defined in the claims of the present application is an obvious valuation of the inventions defined in the claims of Rondeau '273, the disclosure of Rondeau '273 may not be used as prior art. See General Foods Corp. v. Studiengesellschaft Kohle mbH, 972 F.2d 1272, 1280 (Fed. Cir. 1992) ("comparison can be made only with what invention is claimed in the earlier patent, paying careful attention to the rules of claim interpretation to determine what invention a claim defines and not looking to the claim for anything that happens to be mentioned in it as though it were a prior art reference."). In the present case, Rondeau '273, especially the claims of Rondeau '273, does not provide any motivation to make the proposed structural modification of dye II-30. Accordingly, absent, *inter alia*, the requisite motivation to modify Rondeau '273 dye II-30, a prima facie case of obviousness has not been established. The obviousness-type double patenting rejection is in error and should be reversed.

C. Claims 26-60 are Patentable Under 35 U.S.C. § 103(a) Over U.S. Patent No. 4,025,301 (Lang) in View of U.S. Patent No. 4,588,410 (Konrad).

The Examiner rejected claims 26-60 under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 4,025,301 to Lang (Lang) in view of U.S. Patent No. 4,588,410 to

Konrad *et al.* (Konrad). This rejection is improper for at least the reason that there would have been no motivation for the specific substitution suggested by the Examiner. This deficiency is addressed further below after briefly summarizing the cited references and the Examiner's position.

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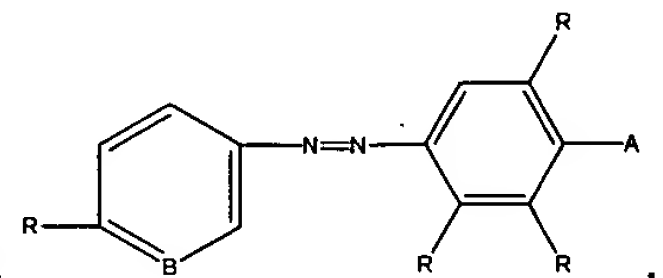
1. THE CITED REFERENCES AND THE EXAMINER'S ARGUMENT

a. The cited references.

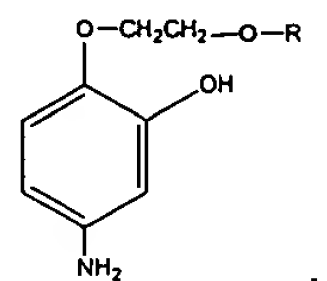
By way of a general background, a direct dye is a colored species that can be directly absorbed to create a temporary or semi-permanent dyeing. (See, e.g., Konrad, col. 2, ln. 19-23.) Direct dyes generally can be contrasted with oxidation dyes, which are another class of dyes that use uncolored or lightly colored reactants (bases (developers) and couplers) capable of penetrating into fibers where they are oxidized and co-polymerized to form colored species and a permanent or semi-permanent dyeing of the fiber. (See, e.g., Konrad, col. 1, ln. 57-68.) Additionally, some direct dyes may also function as oxidation dyes. See, e.g., section 2(a)(2) and note 8, below.

The subject of Lang is direct dye compositions that contain azo direct dyes

derived from 3-amino pyridine, and having the general formula
(Lang, col. 1, ln. 5-19.)



Konrad is directed a 2-hydroxy-4-aminobenzene having the formula
which is disclosed to be useful as an oxidation dye coupler. (Konrad, col. 2, ln. 38-64.)



b. The Examiner's position

The Examiner contends that "[i]t would have been obvious to ... at least partially substitute the m-aminophenol coupler in the composition and process of Lang ... because [(a)] Lang does not require any specific oxidation dyes ... and [(b)] Konrad teaches that the claimed substituted m-aminophenols have various improvements over

the conventionally used m-aminophenols⁵ (Office Action dated February 12, 2003, pg. 4, ln. 1-7.; see *also* Office Action of February 12, 2003, pg. 3, ln. 16-18 ("Adequate motivation to combine the references is supplied by Konrad, column 2 ... who teaches the substituted m-aminophenol as an improvement over m-aminophenol. Thus purpose of Konrad's invention to [sic] an improved coupler, that is an improved m-aminophenol, making the substitution *prima facie* obvious.").) The Examiner specifically identifies Lang composition example q, containing Lang direct dye 14, for the proposed "at least partial" substitution. (*E.g.*, Office Action dated February 12, 2003, pg. 2-3.)

2. THERE WOULD HAVE BEEN NO MOTIVATION TO COMBINE COMPONENTS FROM KONRAD IN A COMPLEX, MULTI-COMPONENT COMPOSITION ACCORDING TO LANG.

"When determining the patentability of a claimed invention which combines two known elements, 'the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.'" *In re Beattie*, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992) (quoting *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 488 (Fed. Cir. 1984)). "In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would

⁵ The Examiner has never explained, and Appellants do not understand, the meaning of a motivation "to at least partially substitute." It is not clear what, if any, distinction is being made between "fully substituting" and "partially substituting." It is also unclear if this characterization of the motivation is intended to indicate that the alleged motivation is not specific, but rather ambiguous as to fully or only partially substituting the m-aminophenol in Lang's example q. Further, Appellants contend that there is no motivation to either partially or fully substitute the m-aminophenol in Lang example q. To the extent that it is ambiguous, the Examiner clearly has not established a *prima facie* case of obviousness.

select the elements from the cited prior art references for combination in the manner claimed.” *In re Rouffet*, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998). It is not sufficient to merely “find every element of a claimed invention in the prior art [and for] an examiner to use the claimed invention itself as a blue print for piecing together elements Such an approach would be an illogical and inappropriate process by which to determine patentability.” *Rouffet* at 1457 (citations and quotations omitted).

The Examiner can meet the burden of establishing a prima facie case of obviousness “only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.” *Fine* at 1598 (internal citations omitted) (emphasis added). See also *Lee* at 1433 (“The need for specificity pervades this authority ... the examiner can satisfy the burden of showing obviousness of the combination only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.” (internal citations and quotation omitted)).

Further, in order to establish a prima facie case of obviousness of a novel combination of components, there must be something to suggest the desirability of making the combination. *In re Sernaker*, 217 USPQ 1, 6 (Fed. Cir. 1983) (“[P]rior art

references in combination do not make an invention obvious unless something in the prior art references would suggest the advantage to be derived from combining their teachings.”). For example, in *Beattie* desirability and motivation were found present based on art that disclosed (i) the deficiencies of the traditional but irrational

alphabetical musical notation system and (ii) the advantages of replacing this traditional notation with a simple and rational numerical system. *Beattie* at 1042. Specifically, the court held that “[t]his reference suggests the desirability of implementing a simple numerical alternative to the complex alphabetical musical notation.” *Id.*

In the present case, as explained below, the Examiner has not met the burden of establishing a prima facie case of obviousness. In particular, there would have been no desirability and hence no motivation for the proposed substitution. Further, since the Lang and Konrad compositions are reactive, they cannot be merely mixed (as alternately argued by the Examiner) absent express motivation.

a. The “various improvements” attributed to Konrad’s coupler are limited to compositions distinct from and cannot be extrapolated to those of Lang.

A flaw in the logic of the rejection is that, without support and contrary to the principles of the art, it extrapolates alleged advantages and disadvantages for very specific and narrow situations to other more complex and non-analogous compositions. Specifically, the Examiner’s argument is premised on the substitution of m-aminophenol in Lang example q with Konrad’s substituted m-aminophenol to obtain “various improvements over the conventionally used m-aminophenols.” (Office Action of January 4, 2001 , pg. 4, ln. 3-10.) The Examiner also alleges that the proposed modification is not expressly excluded by Lang. (*Id.*) However, the “various improvements” attributed to Konrad’s coupler are directed to compositions that are distinct from and which cannot be extrapolated to those of Lang.

As discussed below, Lang’s example q is a complex, multi-component mixture without any known disadvantages. The alleged “various improvements” of Konrad are

particularly limited in scope, and are not applicable to Lang example q. Further, the advantages and disadvantages attributed to Konrad cannot be extrapolated to Lang.

(1) **Konrad does not allege improvements for complex multi-component compositions like Lang example q.**

The diazo-bridged direct dye composition of Lang must be considered as a whole, and understood to have a unique chemical identity that, due to the potential for chemical interactions and reactions, is more than merely the sum of its components. The failure to recognize the potential for interactions between chemical components is inconsistent with the evidence of record and a general understanding of chemistry. See, e.g., *In re Larsen*, 130 USPQ 209, 213 (CCPA 1961) (Martin, J., concurring) (“... I am aware that machines differ from chemical compounds in that the individual parts of a machine retain their identity and merely interact or cooperate in producing some desired result while chemical reactants lose their identity in reacting to produce a new substance”)

Specifically, Lang example q is a complex mixture distinct from the compositions cited in Konrad. Lang example q includes, among other things, three oxidation bases: p-toluylene diamine, p-aminophenol, and N-methyl p-aminophenol; three couplers: m-diaminoanisoole sulfate, resorcin, and m-aminophenol; and a diazo-bridged direct dye. See Table 1.

Table 1

Component	Type
4'-dimethylamino benzene-1':3 azo pyridine N-oxide	Direct dye
Paratoluylene diamine	Oxidation base
Para aminophenol	Oxidation base
N-methyl para aminophenol sulfate	Oxidation base
Metadiamincanisoole sulfate	Oxidation coupler

Resorin	Oxidation coupler
Meta aminophenol	Oxidation coupler
Butyl Cellosolve	Other
Propylene glycol	Other
Alkylphenol polyethoxyether	Other
Alkylphenol polyethoxyether	Other
Ammonia	Other
Sodium bisulfite solution	Other
Water	Other

Although relied upon by the Examiner as the motivation for modifying Lang Example q, Konrad does not contain any allegation that its coupler will provide any advantage or overcome any disadvantage for all composition comprising m-aminophenol. Konrad also does not allege that the use of their substituted coupler will provide advantages in a composition such as Lang example q. In fact, Konrad only identifies (at most) three limited cases where their coupler may provide advantages.

First, Konrad discloses that when m-aminophenol is used with p-aminophenol, the pair yields only weak color tone. (Konrad, col., 3, ln. 1-25.) This problem is solved, according to Konrad, by the use of one of their couplers "together with the p-aminophenol as a developer substance [which] results in a very intensive fashionable copper tone" (*Id.*)

Second, Konrad discloses that when m-aminophenol is used with p-diamines like 2,5-diaminotoluene or 2,5 diaminobenzene alcohol, the combination generates violet tones, and not red tones.⁶ (*Id.*) This problem is solved, according to Konrad, by the use of their “coupler with p-diamines [which] results in improved possibilities of use for red shades” (*Id.*)

Third, although Konrad does not allege any disadvantage for the use of m-aminophenol with 2,5-diaminobenzene or pyrimidine, Konrad does allege that their couplers “can be used in combination with the developer substances 2,5-diaminobenzene and pyrimidine, whereby interesting violet tones are created.” (*Id.*)

There are no other oxidation dye compositions criticized by Konrad. Konrad does not allege that there are any disadvantages when using m-aminophenol with N-methyl p-aminophenol as a base, or the particular three-base combination of Lang example q. Likewise, Konrad does not allege that there are any disadvantages when using m-aminophenol together with the coupler m-diaminoanisoole sulfate, or the

⁶ In full, the relevant portion of Konrad states:

Preferably, resorcin and m-aminophenol as a coupler in conjunction with p-phenyldiamines or 2,5-diaminotoluene are used as a developer for generating natural color tones. The yellow coloring caused by resorcin is covered by adding m-aminophenol and in this manner the color tone is adjusted as a whole to a warmer color tone.

However, if one would like to create fashionable tones, the use of m-aminophenol is less suitable since it generates only a very weak color tone together with the p-aminopenol and does not result in a red tone but rather a violet tone with the customary p-diamines like, for example, the 2,5-diaminotoluene or the 2,5-diaminobenzene alcohol.

It is therefore an object of the invention to make available novel color effective compounds as coupler substances which substantially eliminate the disadvantages of the m-aminophenol and result in cooling agents which meet the requirements in an optimum manner.

(Konrad; col. 2, ln. 24-42.)

particular three coupler combination of Lang example q. Konrad also does not allege any disadvantages to using m-aminophenol together with the specific direct dye of Lang example q, the class of direct dye discloses in Lang, or direct dyes in general.

Necessarily, therefore, Konrad also does not allege any disadvantages of the three-base, three-coupler, and direct dye combination of Lang example q.

Not only are there no disadvantages attributed to the use of m-aminophenol in Lang example q, it is equally true that Konrad does not allege any advantages to the use of their coupler with the three-base, three-coupler, direct dye combination of Lang example q. Consequently, one skilled in the art reading Lang in view of Konrad would not have been motivated to modify Lang example q in view of Konrad for the simple reasons that there is no known problem with Lang example q and there are no known advantages to the use of their coupler is such a composition.

Appellants recognize that Konrad states that combinations of other developers and couplers may be used (Konrad, col. 3, ln. 37-44). However, Konrad does not allege that there are any disadvantages to the use of m-aminophenol with other developers and couplers, and does not allege that there are any advantages to the use of their couplers with other unspecified developers and couplers. Since mere possibility is not motivation, the possibility of using additional unspecified developers and couplers cannot be converted into a motivation for modifying an apparently successful

composition such as Lang example q, which has no known disadvantages or problems.

In re Brouwer, 37 USPQ2d 1663, 1666 (Fed. Cir. 1995) (The mere possibility that a compound could be modified or replaced does not make it obvious to do so "unless the prior art suggested the desirability of such a modification or replacement." (internal

citations and quotations omitted)); *In re Kotzab*, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000) ("The idea ... is a technologically simple concept. With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of [the claimed] invention to make the combination in the manner claimed.")

Further, the "various improvements" of Konrad, even as alleged by the Examiner, are not with respect to the use of Konrad's substituted m-aminophenol in a direct dye based composition according to Lang. Konrad is silent with respect to compatibility and use with direct dyes.⁷ Thus, there is no basis from which the Examiner can argue that Konrad provides motivation for using their substituted coupler in a composition comprising a direct dye.⁸

⁷ Konrad identifies various other components that may be used with their substituted m-aminophenol, such as wetting agents and thickeners. (Konrad, col. 3, ln. 63 - col. 4, ln. 18.) Notoriously, there is no mention in Konrad of compatibility with direct dyes, or any suggestion of the use of direct dyes with the disclosed m-aminophenol. The only mention of direct dyes is as background on types of hair dyes (Konrad, col. 2, lns. 19-24), but this is distinct and separate from Konrad's compositions comprising a substituted m-aminophenol.

⁸ The Examiner has argued that oxidation dyes and direct dyes do not interact. See, e.g., Office Action dated February 12, 2003, pg. 6-7. However, it is known that direct dyes can, in addition to functioning as direct dyes, participate in oxidation dye formation as, for example, a coupling agent. See, e.g., U.S. Patent No. 3,933,886 to Saygin, col. 1, ln. 21-26 ("It is an object of the present invention to provide an aqueous hair dye preparation containing a diamino-nitro-benzene compound which acts as a direct dye or which acts as a coupling component along with a developer component in an oxidation dyestuff composition."). Thus, direct dyes clearly can interact with oxidation dyes. Further, as shown in section (2), below, the magnitude of the effect of replacing m-aminophenol with another coupler depends greatly on the type of direct dye that is (continued...)

Accordingly, there are no alleged disadvantages according to Konrad for the use of m-aminophenol with developers other than p-aminophenol and/or p-diamines.⁹ Likewise, there are no alleged advantages according to Konrad for the use of their coupler with developers other p-aminophenol, p-diamines, 2,5-diaminobenzene and/or pyrimidine. There are also no known disadvantages to using m-aminophenol with direct dyes, particularly those of Lang. Any motivation based on Konrad is of limited scope. Unless the developers are limited to p-aminophenol, p-diamines, 2,5-diaminobenzene and pyrimidine, the couplers are limited to resorcin and m-aminophenol and no direct dyes are used, there are neither alleged problems with using m-aminophenol as a coupler nor alleged advantages for using Konrad's substituted coupler.

In contrast to the disadvantages of the irrational alphabetical musical notation system of *Beattie*, Konrad does not attribute disadvantages to the complex, multi-component composition of Lang proposed for modification by the Examiner. Also unlike the advantages of the simplified rational numerical notation system of *Beattie*, Konrad does not allege that the proposed modification will provide any advantage. Absent both a disadvantage to be overcome and an advantage to be obtained, there would have been no desirability and hence no motivation for making the Examiner's proposed combination.

present. The direct dye dependent difference in effects also shows that there is interaction between the oxidation dyes and the direct dyes.

⁹ It should also be recognized that Konrad notes the advantage of m-aminophenol when used with resorcin in overcoming yellowing problems due to resorcin alone and yielding a "warmer color tone." (Konrad, col. 2, ln. 25-31.)

(2) **Konrad's alleged improvements cannot be extrapolated to other compositions.**

There can be no question that the components of a dye composition interact with each other. There can also be no question that the ultimate properties of the dye composition depend on these complex interactions. Just a few of the innumerable known interactions among dye components are discussed below. Thus, although implicit in the Examiner's argument, it is incorrect to assume that Konrad's critique of specific m-aminophenol compositions can be extrapolated to other compositions, such as the substantially more complex Lang example q. Since Konrad's narrow critique of m-aminophenol in other compositions cannot be extrapolated to Lang example q, there would have been no motivation to modify Lang in view of Konrad.

First, Konrad expressly recognizes that different combinations of oxidation dyes and bases have different properties. For example, according to Konrad "[t]he yellow coloring caused by resorcin [when used with p-phenyldiamines or 2,5-diaminotoluene as bases] is covered by adding m-aminophenol and in this manner the color tone is adjusted as a whole to a warmer color tone." (Konrad, col. 2, ln. 28-31.) Thus, the combination of resorcin and m-aminophenol has properties that are different from a composition where resorcin is used alone, and the disadvantage (yellowing) is fully overcome. Since the combination yields unique properties, one cannot extrapolate from the properties of the resorcin composition to the resorcin/m-aminophenol combination.

If one did try to extrapolate from the properties of a resorcin based composition to

others with multiple couplers, one might expect there to be yellowing—and at least if m-aminophenol were present, one would be exactly wrong.¹⁰

Second, the evidence against extrapolating the unique properties of one dye compositions to another are not limited, even in Konrad, to the above example. For instance, Konrad also discloses that m-aminophenol yields different results with bases such as p-aminophenol and p-diamines such as 2,5-diaminotolunene and 2,5-diaminobenzene alcohol. (Konrad, col. 2., ln 32-38 (“[m-aminophenol] generates only a very weak color tone together with the p-aminophenol and does not result in a red tone but rather a violet tone with the customary p-diamines”).)

Third, evidence of the inability to extrapolate from the unique properties of one specific oxidation base/dye composition to another are not limited to Konrad. For example, as shown in the present specification, compositions that are identical but for the replacement of an m-aminophenol coupler for an equal molar amount¹¹ of a substituted m-aminophenol coupler according to formula (II) of the present invention leads to unpredictable changes in the color properties of dyed hair. (Specification, pg. 27-31.) Specifically, as summarized in the Table 2, below, in comparison to the coupler

¹⁰ It is no answer to say, as the Examiner has generally argued (e.g., Office Action dated February 12, 2003, pg. 6, 10), that that both resorcin and resorcin/m-aminophenol based compositions are hair dye compositions. This argument misses the point that Konrad is being relied upon for providing alleged advantages over other compositions. Even if one might expect a novel composition to have some utility for dyeing, “some utility” is not a motivation for selectively combining two references to modify a composition that has no known deficiencies.

¹¹ Compositions 1 and 3 comprise 0.369 grams of 5-amino-2-methylphenol, which, given a molecular weight of 123.15 g/mole, is 2.996×10^{-3} moles (0.369 g / 123.15 g/mole). Compositions 2 and 4 comprise 0.327 g meta-aminophenol, which, given a molecular weight of 109.13, is 2.996×10^{-3} moles (0.327 g / 109.13 g/mole). (Specification, pg. 27.)

m-aminophenol the use of a substituted m-aminophenol coupler according to formula

(II) with p-phenylenediamine as a base leads to:

- *increased* hue (dH),
- *decreased* "value" or intensity (dV),
- *increased* "chroma" or saturation (dC), and
- *increased* color difference or coloration (ΔE).

Table 2

Example	Direct dye	Oxidation coupler	Hue (dH)	Intensity (dV)	Saturation (dC)	Coloration (ΔE)
Ex. 1 (invention)	4'-dimethyl-aminobenzene-1'-azo-3-pyridine N-oxide	5-amino-2-methylphenol	16.8	3.1	2.2	36.0
Ex. 2		m-aminophenol	12.1	3.4	0.5	29.6
Ex. 3 (invention)	2'-acetylamino-4'-dimethyl-aminobenzene-1'-azo-1-ethyl-3-pyridinium ethosulphate	5-amino-2-methylphenol	18.2	3.3	1.4	35.6
Ex. 4		m-aminophenol	14.6	3.6	0.1	31.2

These results show that a composition's properties are strongly influenced by and directly dependent on the specific combination of dyes. Not only does the replacement of m-aminophenol with 5-amino-2-methylphenol change the hue (dH), intensity (dV), saturation (dC), and coloration (ΔE), but the extent of the changes depend on which direct dye is used. While the substituted coupler increased coloration

in both sets of examples, with the direct dye 4'-dimethyl-aminobenzene-1'-azo-3-pyridine N-oxide (examples 1 and 2) the coloration changed by 6.4 units, while with the direct 2'-acetylamino-4'-dimethyl-aminobenzene-1'-azo-1-ethyl-3-pyridinium ethosulphate (examples 3 and 4) the coloration only changed by 4.4 units. As compared to the 4.4 unit increase with 2'-acetylamino-4'-dimethyl-aminobenzene-1'-azo-

1-ethyl-3-pyridinium ethosulphate, the 6.4 unit increase with 4'-dimethyl-aminobenzene-1'-azo-3-pyridine N-oxide is 2 units or almost 50% greater.¹² See also note 7, *supra*.

Fourth, even the Examiner concedes the effects of additional components in a dye composition cannot be predicted. For example, the Examiner noted that "Lang's composition contains a mixture of oxidation bases and couplers ... not present in the compared compositions. It is unclear how these additional dyes effect the overall results." (Office Action of May 8, 2001, pg. 4, ln. 12-15 (emphasis added).)

The properties of dye compositions thus depend not only on the specific oxidation dyes and bases, but direct dyes as well. Konrad's critique of m-aminophenol compositions containing only the bases p-aminophenol and p-diamines do not apply to other compositions with different or additional dyes. Since "[i]t is unclear how these additional dyes effect the overall results" (Office Action of May 8, 2001, pg. 4, ln. 12-15), Konrad's criticism of specific compositions cannot be extrapolated to other complex compositions, such as Lang's example q, which contains 4'-dimehtylamno benzene-1':3 azo pyridine N-oxide as a direct dye, three oxidation bases, including N-methyl para aminophenol sulfate, and three oxidation couplers, including metadiamincanisole

¹² This comparison from pages 27-31 of the present specification is directly analogous to the modification of Lang proposed by the Examiner. Specifically, the Examiner proposes substituting Lang's m-aminophenol with a substituted m-aminophenol. (Office Action dated February 12, 2003, pg. 4.) This is exactly the difference between Examples 1 and 2, and between Examples 3 and 4 in the present specification. Accordingly, the results are of particular relevance to the Examiner's argument and proposed combination.

sulfate. Accordingly, for this additional reason, the combination of Lang in view of Konrad fails to support a prima facie case of obviousness.

(3) **Conclusion with respect to motivation to modify Lang due to the absence of disadvantages in Lang or advantages of the proposed modification in view of Konrad.**

The rejection is inconsistent with the fact that Lang's diazo-bridged direct dye compositions, such as example q, are not mere static mixtures of unrelated components. They are not analogous to physical compositions, such as a mixture of different size ball bearings, and the problems of one composition, particularly problems with respect to the coloring properties, cannot be extrapolated to other compositions. By focusing on narrow teaching of Konrad as the basis for modifying complex compositions not contemplated by Konrad, the Examiner has failed to treat the composition of Lang example q as a whole, or to even recognize that it is a chemical composition composed of a large number of components that have potentially hundreds of chemical interactions or reactions to consider. As noted above, the yellowing attributed to using resorcin as a coupler cannot be extrapolated to compositions where resorcin and m-aminophenol are used together. Further, the effects of replacing m-aminophenol with a substituted coupler depend (in both ultimate effect and comparative change) on the presence of a direct dye. In short, the Examiner has failed to recognize that a composition containing base B1 and coupler C1 is different from a composition containing bases B1 and B2, couplers C1 and C2, and direct dye D. It is legally and technically erroneous to apply motivation based on the coloration effects of one reactive composition (B1, C1) to another (B1+B2, C1+C2, D). See *also* section VIII.C.2.b, below.

Although Konrad might broadly suggest the possibility of compositions comprising mixtures of bases and couplers (col. 3, lines 39-43), and might also broadly suggest the possibility of adding certain additional cosmetic components suitable for use with the coupler (col. 3, line 54 - col. 4, line 18), neither Konrad nor Lang provide any motivation for using Konrad's coupler in a composition comprising a direct dye, much less the specific class of direct dyes disclosed in Lang, much less the particular direct dye of Lang example 14. In fact, given that Konrad does not include direct dyes among the specifically identified compatible components (see Konrad, col. 3, line 63 - col. 4, line 18), it is even more evident that Konrad does not provide an objective motivation for the Examiner's suggested combination.

Consequently, missing from the objective teaching of Konrad and Lang is the motivation to:

- use Konrad's coupler in place of m-aminophenol in a composition comprising a direct dye;
- use Konrad's coupler in place of m-aminophenol in a composition comprising the direct dye of Lang example 14; and
- use Konrad's coupler in place of m-aminophenol in a composition comprising all fourteen of the chemical components of Lang example q.

Accordingly, since the cited references lack the requisite motivation for the suggested combination/modification, a prima facie case of obviousness has not been established.

b. *Kerkhoven* is Not Applicable

The Examiner alternatively contends that "[i]t is prima facie obvious to combine two compositions each taught by the prior art to be useful for the same purpose, in

order to form a third composition which is to be used for the very same purpose.”
(Office Action of May 9, 2001, page 5, lines 15-17.) However, the present case differs from the facts of *In re Kerkhoven*, 205 USPQ 1069 (CCPA 1980), cited by the Examiner to support of this argument. Moreover, it is impermissible for the Examiner attempt to rely on *Kerkhoven* as a short cut means to establishing a prima facie case of obviousness without first establishing the elements of a prima facie case as required by the Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966).

As characterized by the CCPA, the claims at issue in *Kerkhoven* “require no more than the mixing together of two conventional spray-dried detergents.” *Kerkhoven* at 1072. In contrast, the composition of Lang example q cited by the Examiner is not directed to static mixtures of components, such as those of *Kerkhoven*, that have no necessary interaction with one another. In fact, as discussed above, the Lang composition is a complex reactive composition comprising various components including three oxidation bases, three oxidation couplers, and a direct dye.

Given that Lang example q is a complex chemical mixture, the modification suggested by the Examiner to at least partial substitute of one of the reactive components is in no way equivalent to the mere “mixing together” of non-interacting components on which *Kerkhoven* is based. Accordingly, based on the factual differences between the present case and those presented in *Kerkhoven*, the rejection relying on *Kerkhoven* is improper.

Moreover, the more recent Federal Circuit holding in *In re Geiger*, 2 U.S.P.Q.2d 1276 (Fed. Cir. 1987), is applicable to the present situation. In *Geiger*, the Appellants claimed a method of inhibiting scale formation on and corrosion of metallic parts in

cooling water systems by use of compositions containing (1) a copolymer of sulfonated styrene/maleic anhydride (SSMA); (2) a water soluble zinc compound; and (3) an organo-phosphorus acid compound or water soluble salt. The collective prior art taught using each of these three components, separately or in a combination falling short of that claimed, for treating cooling water systems. The Board of Patent Appeals and Interferences held it prima facie obvious to combine the three components together for their known functions and to optimize the amount of each. *In re Geiger*, 2 U.S.P.Q.2d at 1277-78.

The Federal Circuit reversed the Board, emphasizing that "[o]bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." *Id.* at 688, 2 U.S.P.Q.2d at 1278. The court then proceeded to go through each of the references relied on showing why, absent hindsight, the skilled artisan would not have found it obvious to make the claimed composition.

While acknowledging that combining the three components of the claimed composition may have been obvious to try, the court stated it does not constitute the standard for combining references under § 103. *Id.*; *cf. In re Wesslau*, 147 U.S.P.Q. at 393 (holding "[i]t is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one skilled in the art".).

Thus, as in *Geiger*, even if components or compositions have known functions for the same purpose, the Examiner must nevertheless establish all the elements of a

prima facie case including, among other things, some teaching, suggestion or incentive supporting the combination. However, the Examiner's reliance on *Kerkhoven* in an attempt to establish a prima facie case of obviousness, based on the argument that it is obvious to mix two compositions known for the same purpose, is misplaced given that an objective teaching, suggestion or incentive supporting the combination has not been established.

Therefore, since the Examiner has not established and the references do not contain sufficient objective teachings of a motivation to combine, a prima facie case of obviousness has not been established.

3. CONCLUSION WITH RESPECT TO LANG IN VIEW OF KONRAD.

The advantages and disadvantages attributed to Konrad are limited in scope and cannot be extrapolated to more complex, multi-component systems. Konrad does not identify any disadvantages inherent in Lang's example q, and does not identify any advantages to the proposed "at least partial" substitution. Thus, there would have been no motivation for the proposed substitution. Further, since the Lang and Konrad compositions are reactive dye compositions, they cannot be merely mixed absent an express motivation. For at least these reasons, the rejection is in error and should be reversed.

D. ~~Claims 37-39 are Patentable Under 35 U.S.C. § 103(a) Over~~ ~~Lang in view of Konrad in further view of U.S. Patent No.~~ ~~6,001,135 (Rondeau '135).~~

Claims 37-39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lang and Konrad as applied to claim 26 and further in view of U.S. Patent No. 6,001,135 (Rondeau '135).

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The Examiner relies on Rondeau '135 "for teaching the equivalence of the double base as claimed in claim 37 to the oxidation bases used in Lang when used in compositions containing cationic direct dyes." (Office Action of July 31, 2002, pg. 7, ln. 12-14.) In support of this contention, the Examiner cites (*id.*) a three-column long list of oxidation bases that is identified as "[t]he oxidation base(s) which can be used in the ready-to-use dye compositions in accordance with the invention" (Rondeau '135, col. 7, ln. 65-67.)

However, this argument is not sufficient to establish a prima facie case of obviousness. In addition to the deficiencies noted above for the combination of Lang and Konrad, the present rejection further suffers from an improper reliance on an alleged equivalence of oxidation bases and the view that it is prima facie obvious to substitute allegedly equivalent components. Thus, as explained below, common listing does not establish equivalency for all purposes. Further, an allegation of equivalence is insufficient to provide a motivation for substituting reactive components.

1. COMMON LISTING DOES NOT ESTABLISH EQUIVALENCE.

As explained by the Federal Circuit, the mere fact that components are claimed as members of a Markush group cannot be relied upon to establish the equivalency of these components. *In re Ruff*, 118 USPQ 340, 348 (CCPA 1958); *In re Jezl*, 158 USPQ 98,100 (1968) (holding that mere common listing of ingredients fails to establish the equivalency of the ingredients for all purposes). The absence of equivalency based on common listing has also been recently recognized by the Board. *Ex parte Maubru*, Appeal No. 2003-0617 at 7-8 (BdPatApp&Int 2003) (While the examiner argued that a common listing of solvents in one reference established their equivalency and

interchangeability for all purposes, the Board recognized that, “[a]s correctly pointed out by appellants, the fact that [one reference] may establish the equivalency of the solvents for one purpose is not sufficient to establish their equivalency for all purposes.”) (Copy attached as Appendix II). Thus, Rondeau ‘135’s three-column long common listing of oxidation bases that may be used in the Rondeau ‘135 invention also does not establish their equivalency for all purposes.

However, by concluding that the hundreds of oxidation bases listed in Rondeau ‘135 are equivalent based solely on their common listing in a single group, the rejection violates the principles, recognized since the 1950’s, that “it is no longer possible to indulge in the presumption that members of a Markush group are recognized by anyone to be equivalent ...” for all purposes, *Ruff* at 348, and that the “mere inclusion of several compounds in a list ... does not necessarily establish that each of these compounds is ‘equivalent’ to the others for all purposes,” *Jezl* at 100. This is especially true here, where the facts show, and the Examiner has expressly argued that, the properties of a dyeing composition are directly affected by the specific combination of dye components. See section VIII.C.2.a(2), above. Thus, for at least this reason, the rejection is legally erroneous and should be reversed.

2. ALLEGED EQUIVALENCES ARE INSUFFICIENT MOTIVATION FOR FUNCTIONAL COMPONENTS.

When there is a functional relationship between components, the law is clear for a novel combination that it is not prima facie obvious to combine known components. *United States v. Adams*, 383 U.S. 39, 50 (1966). In *Adams*, for example, the claimed invention was a wet battery with magnesium and cuprous chloride electrodes. *Id.* at 42. The prior art showed wet batteries with zinc and silver chloride electrodes, and that zinc

and silver chloride may be substituted with magnesium and cuprous chloride, respectively. *Id.* at 48. Based such a substitution, it was argued that the claimed battery was obvious. *Id.*

The Supreme Court, however, found this position to be flawed. *Id.* They distinguished *Sinclair & Carroll Co. v. Interchemical Corp.* 325 U.S. 327 (1945), where the substitution of an inert component for an equivalent component was held to be obvious, based on the fact that in *Adams* “the [claimed] battery is shown to embrace [known] elements having an interdependent functional relationship.” *Adams*, 338 U.S. at 49-50 (emphasis added). Specifically, they held that “[i]t begs the question ... to state merely that ... [the elements] were individually known battery components [and therefore obvious]. If such a combination is novel, the issue is whether bringing them together as taught by [the applicant] was obvious in the light of the prior art.” *Id.* at 50.

Accordingly, since the proposed modification involves reactive components, such as the oxidation base according to Rondeau '135, that have “interdependent functional relationship[s],” the present rejection cannot be justified based on an alleged “known equivalence.” For at least this reason, the rejection is legally erroneous and should be reversed.

IX. Conclusion

Each rejection should be reversed and withdrawn.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Appeal Brief, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith,

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including any fees required for an extension of time under 37 C.F.R. § 1.136, please
charge such fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: August 26, 2003

By: 

Mark J. Feldstein
Reg. No. 46,693

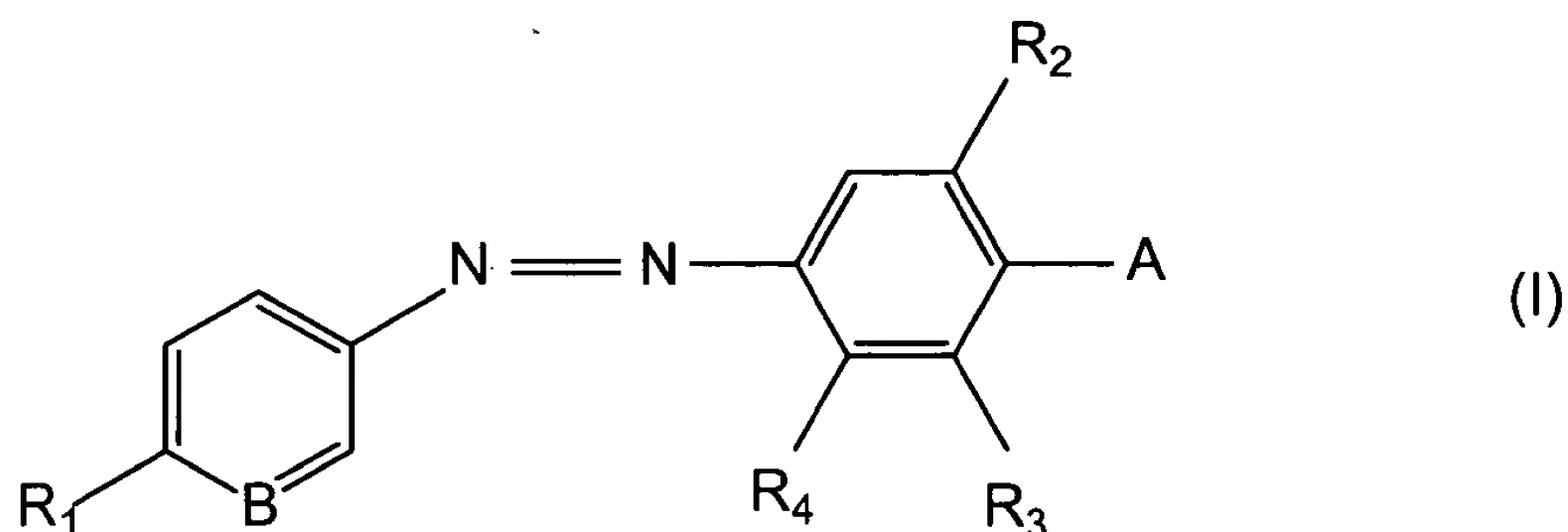
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APPENDIX I - PENDING CLAIMS

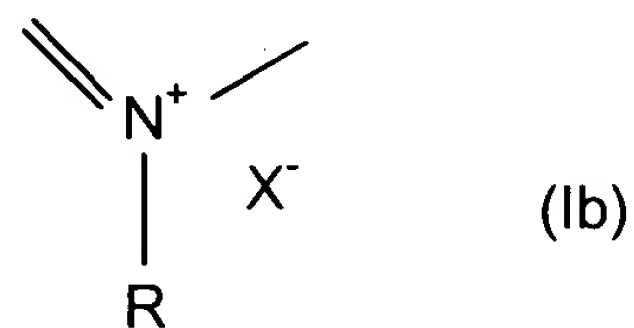
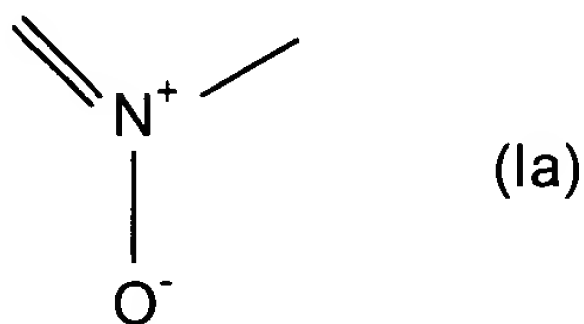
26. A composition for the oxidation dyeing of keratin fibers comprising:

- a) at least one oxidation base, and
- b) as direct dye, at least one 3-aminopyridine derivative chosen from the compounds of formula (I):

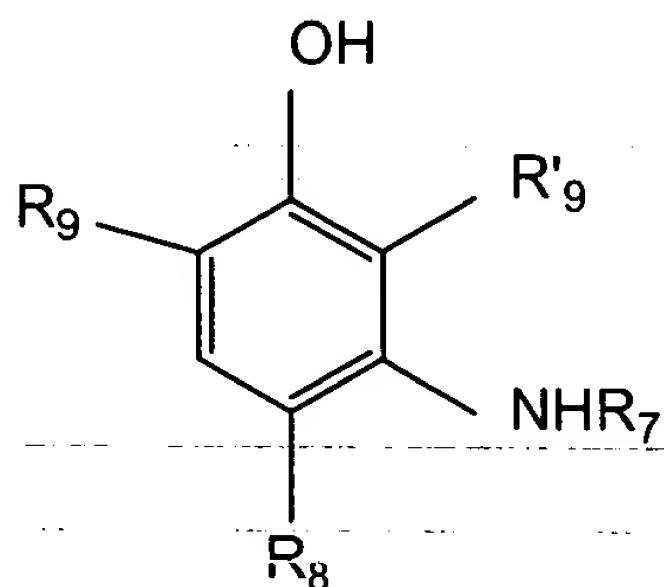


in which:

- B is chosen from formula (Ia) and (Ib):



- R is a C₁-C₄ alkyl radical;
 - R₁ is chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, and a C₁-C₄ alkoxy radical;
 - R₂ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, and a C₁-C₄ alkoxy radical;
 - R₄ is chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, a nitro, an amino radical and a (C₁-C₄)acylamino radical;
 - R₃ is a hydrogen atom, or R₄ and R₃ together form a 6-membered unsaturated ring bearing a hydroxyl substituent chelated with one of the nitrogen atoms of the azo double bond;
 - A is a residue -NR₅R₆ in which R₅ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical and C₂-C₄ polyhydroxyalkyl radical and R₆ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, a phenyl ring and a -CH₂-SO₃Na radical;
 - X⁻ is chosen from a monovalent anion and a divalent anion, and
- c) at least one coupler chosen from a meta-aminophenol derivative of formula (II), and an addition salt thereof with an acid:



in which:

- R₇ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical and a C₁-C₄ monoaminoalkyl radical;
- R₈ is chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, and a C₁-C₄ alkoxy radical;
- R₉ and R'₉, which are identical or different, are chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ alkoxy radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, a C₁-C₄ monohydroxyalkoxy radical and a C₂-C₄ polyhydroxyalkoxy radical;

with the proviso that at least one of the substituents R₇, R₈, R₉ and R'₉, is not a hydrogen atom.

27. A composition according to Claim 26, wherein said keratin fibres are human keratin fibres.

28. A composition according to Claim 27, wherein said human keratin fibres are human hair.

29. A composition according to Claim 26, wherein said halogen atom is chosen from chlorine, bromine and fluorine.

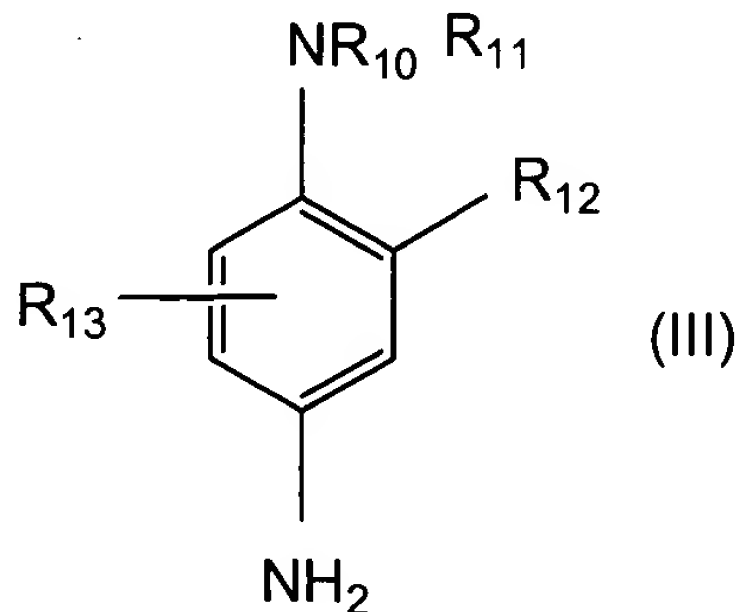
30. A composition according to Claim 26, wherein said X is chosen from a halogen atom, a hydroxide, a hydrogen sulfate and a (C₁-C₆) alkyl sulfate.

31. A composition according to Claim 30, wherein said halogen atom is chosen from chlorine, bromine, fluorine and iodine.

32. A composition according to Claim 30, wherein said (C₁-C₆) alkyl sulfate is chosen from a methyl sulfate and an ethyl sulfate.

33. A composition according to Claim 26, wherein said at least one oxidation base is chosen from a para-phenylenediamine, a double base, a para-aminophenol, an ortho-aminophenol and heterocyclic oxidation bases.

34. A composition according to Claim 33, wherein said para-phenylenediamine is chosen from a compound of formula (III), and an addition salt thereof with an acid:



in which:

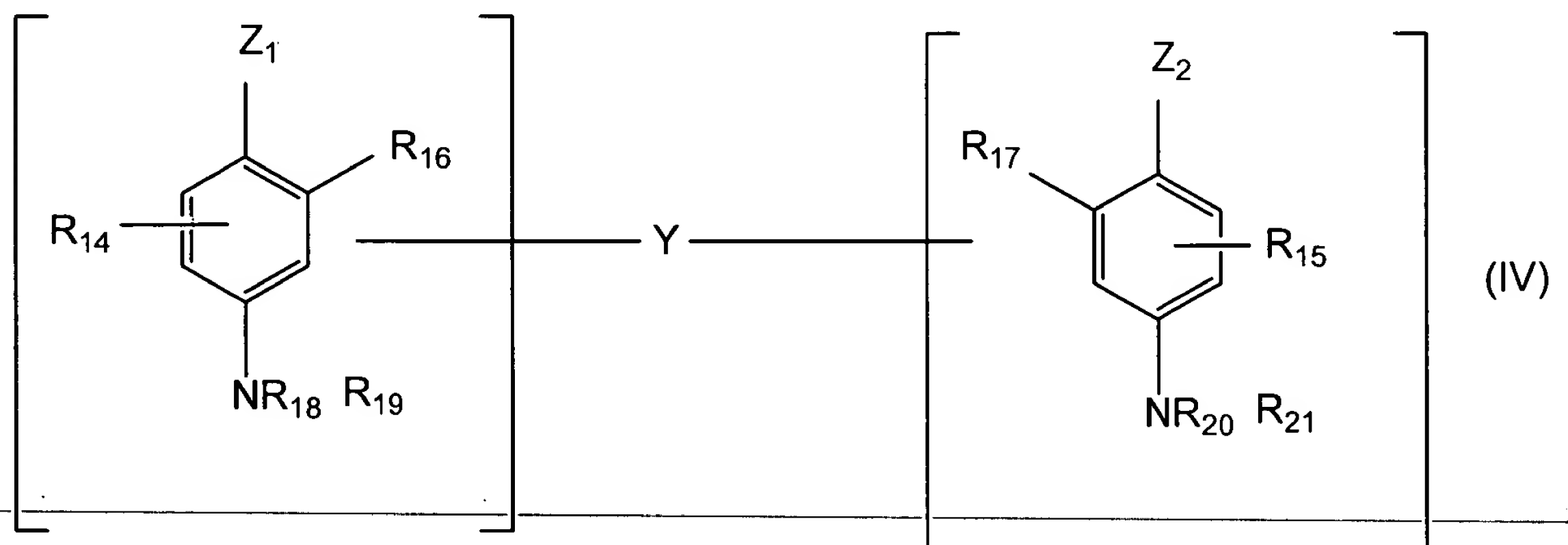
- R₁₀, is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, a (C₁-C₄) alkoxy(C₁-C₄) alkyl radical, a C₁-C₄ alkyl radical substituted with a nitrogenous group, phenyl and 4'-aminophenyl;
- R₁₁ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, a (C₁-C₄) alkoxy (C₁-C₄) alkyl radical and a C₁-C₄ alkyl radical substituted with a nitrogenous group;
- R₁₂ is chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₁-C₄ hydroxyalkoxy radical, an acetamino (C₁-C₄) alkoxy radical, a mesylamino (C₁-C₄) alkoxy radical and a carbamoylamino (C₁-C₄) alkoxy radical,
- R₁₃ is chosen from a hydrogen atom, a halogen atom and a C₁-C₄ alkyl radical.

35. A composition according to Claim 34, wherein said halogen atom is chosen from chlorine, bromine, iodine and fluorine.

36. A composition according to Claim 33, wherein said para-phenylenediamine of formula (III) is chosen from para-phenylenediamine, para-tolylenediamine, 2-chloro-para-phenylenediamine, 2,3-dimethyl-para-phenylenediamine, 2,6-dimethyl-para-phenylenediamine, 2,6-diethyl-para-phenylenediamine, 2,5-dimethyl-para-phenylenediamine, N,N-dimethyl-para-phenylenediamine, N,N-diethyl-para-phenylenediamine, N,N-dipropyl-para-phenylenediamine, 4-amino-N,N-diethyl-3methylaniline, N,N-bis(β -hydroxyethyl)-para-phenylenediamine, 4-N,N-bis(b-

hydroxyethyl)amino-2-methylaniline, 4-N,N-bis(b-hydroxyethyl)amino-2-chloroaniline, 2-b-hydroxyethyl-para-phenylenediamine, 2-fluoro-para-phenylenediamine, 2-isopropyl-paraphenylenediamine, N-(b-hydroxypropyl)-para-phenylenediamine, 2-hydroxymethyl-paraphenylenediamine, N,N-dimethyl-3-methyl-para-phenylenediamine, N-ethyl-N-(b-hydroxyethyl)-para-phenylenediamine, N-(b,g-dihydroxypropyl)-para-phenylenediamine, N-(4'-aminophenyl)-para-phenylenediamine, N-phenyl-para-phenylenediamine, 2-b-hydroxyethyloxy-para-phenylenediamine, 2-b-acetylaminoethyloxy-para-phenylenediamine, N-(b-methoxyethyl)-para-phenylenediamine, and addition salts thereof with an acid.

37. A composition according to Claim 33, wherein said double base is chosen



from a compound of formula (IV), and an addition salt thereof with an acid:

in which:

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- Z_1 and Z_2 , which are identical or different, are chosen from a hydroxyl radical and an -NH₂ radical, each of which is unsubstituted or substituted with a C₁-C₄ alkyl radical or with a linker arm Y;
 - R_{14} and R_{15} are chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, a C₁-C₄ aminoalkyl radical and a linker arm Y;
 - R_{16} , R_{17} , R_{18} , R_{19} , R_{20} and R_{21} , which are identical or different, are chosen from a hydrogen atom, a linker arm Y and a C₁-C₄ alkyl radical;
 - said linker arm Y is chosen from a linear alkylene chain and a branched alkylene chain, each chain comprising from 1 to 14 carbon atoms, which can be interrupted or terminated with at least one nitrogenous group, at least one hetero atom, or a mixture thereof and optionally substituted with at least one hydroxyl radical or a C₁-C₆ alkoxy radical;
- with the proviso that said compounds of formula (IV) comprise only one linker arm Y per molecule.

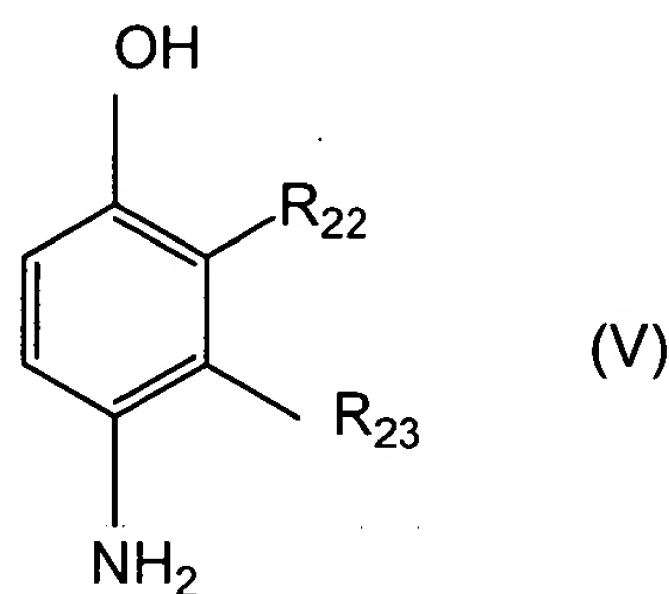
38. A composition according to Claim 37, wherein said at least one hetero atom is chosen from oxygen, sulphur and nitrogen.

39. A composition according to Claim 37, wherein said double base of formula (IV) is chosen from

N,N'-bis(b-hydroxyethyl)-N,N'-bis(4'-aminophenyl)-1,3-diaminopropanol,
N,N'-bis(b-hydroxyethyl)-N,N'-bis(4'-aminophenyl)ethylenediamine, N,N'-bis(4-aminophenyl)tetramethylenediamine, N,N'-bis(b-hydroxyethyl)-N,N'-bis(4-aminophenyl)tetramethylenediamine, N,N'-bis(4-methylaminophenyl)tetramethylenediamine, N,N'-

bis(ethyl)-N,N'-bis(4'-amino-3'-methylphenyl)ethylenediamine,
1,8-bis(2,5-diaminophenoxy)3,5-dioxaoctane, and an addition salt thereof with an acid.

40. A composition according to Claim 33, wherein said para-aminophenol is chosen from a compound of formula (V), and an addition salt thereof with an acid:



in which:

- R₂₂ is chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a (C₁-C₄)alkoxy(C₁-C₄)alkyl radical, a C₁-C₄ aminoalkyl radical and a hydroxy(C₁-C₄)alkylamino(C₁-C₄)alkyl radical,
 - R₂₃ is chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, a C₁-C₄ aminoalkyl radical, a cyano(C₁-C₄)alkyl radical and a (C₁-C₄)alkoxy(C₁-C₄)alkyl radical,
- with the proviso that at least one of the substituents R₂₂ and R₂₃ is a hydrogen atom.

41. A composition according to Claim 40, wherein said para-aminophenol of formula (V) is chosen from para-aminophenol, 4-amino-3-methylphenol, 4-amino-3-fluorophenol, 4-amino-3-hydroxymethylphenol, 4-amino-2-methylphenol, 4-amino-2-hydroxymethylphenol, 4-amino-2-methoxymethylphenol, 4-amino-2-aminomethylphenol, 4-amino-2-(b-hydroxyethylaminomethyl)phenol, 4-amino-2-fluorophenol, and an addition salt thereof with an acid.

42. A composition according to Claim 33, wherein said ortho-aminophenol is chosen from 2-aminophenol, 2-amino-5-methyl phenol, 2-amino-6-methylphenol, 5-acetamido-2-aminophenol, and an addition salt thereof with an acid.

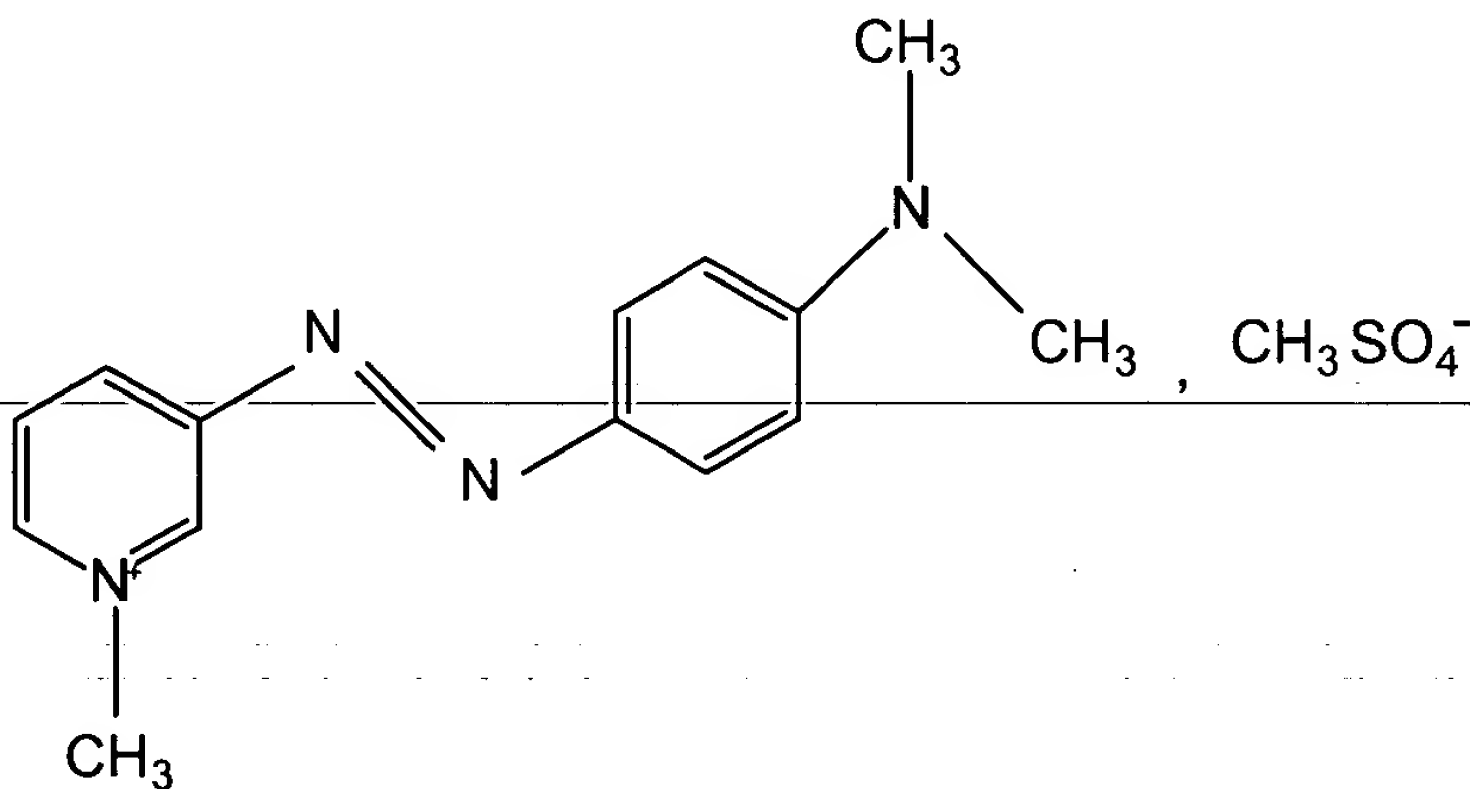
43. A composition according to Claim 33, wherein said heterocyclic oxidation bases are chosen from a pyridine derivative, a pyrimidine derivative, a pyrazole derivative, and an addition salt thereof with an acid.

44. A composition according to Claim 26, wherein said at least one oxidation base is present in an amount ranging from about 0.0005 to about 12% by weight relative to the total weight of the dye composition.

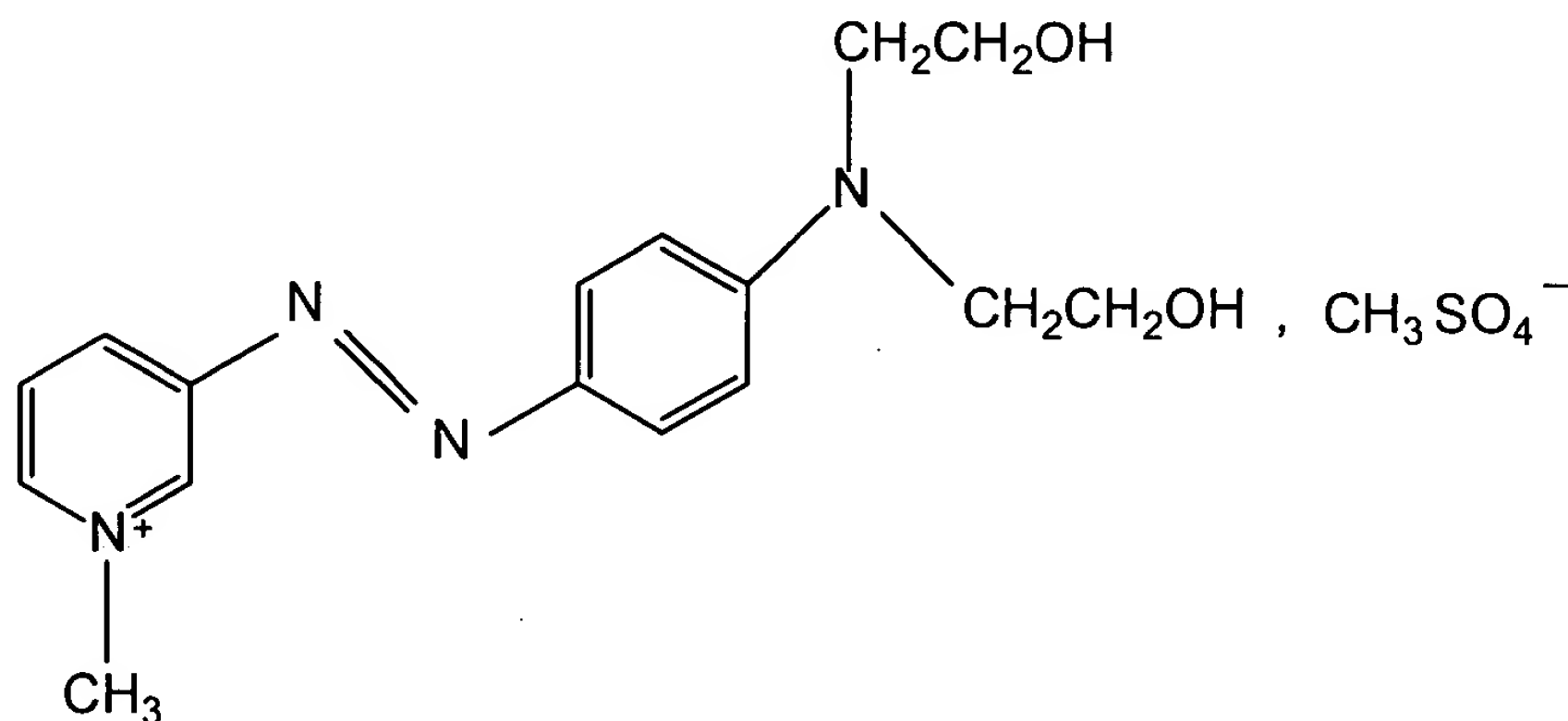
45. A composition according to Claim 44, wherein said at least one oxidation base is present in an amount ranging from about 0.005 to about 6% by weight relative to the total weight of the dye composition.

46. A composition according to Claim 26, wherein said at least one 3-aminopyridine derivative of formula (1) is chosen from:

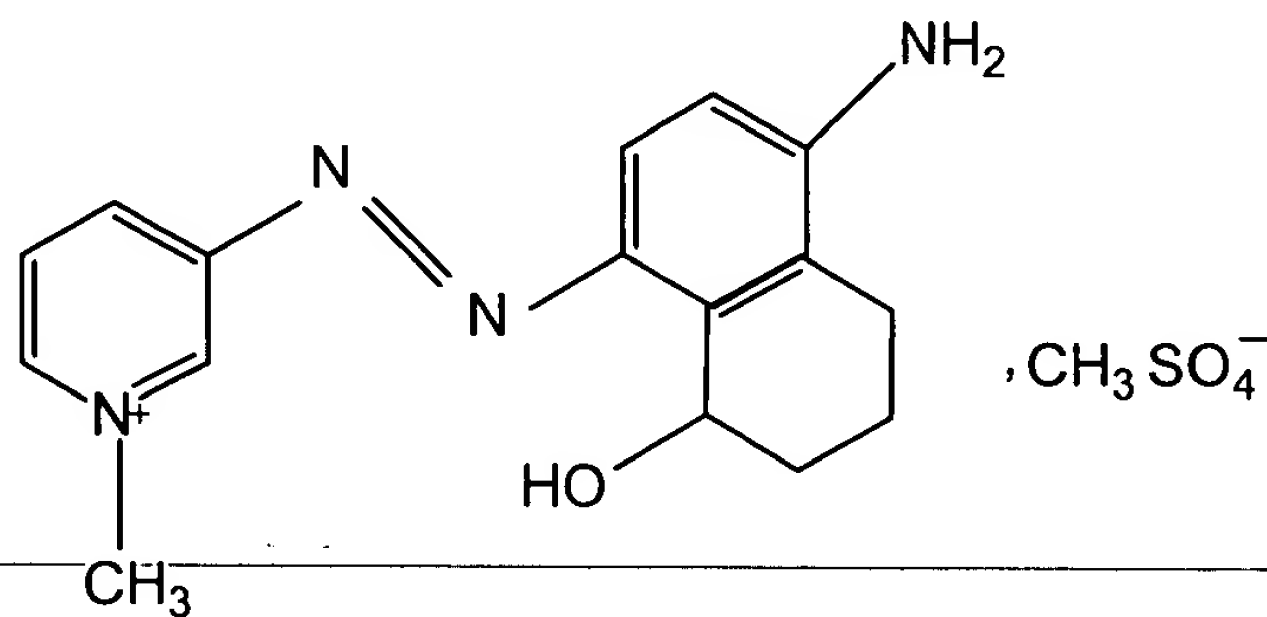
- 4'-dimethylaminobenzene-1'-azo-1-methyl-3-pyridinium methosulphate of formula:



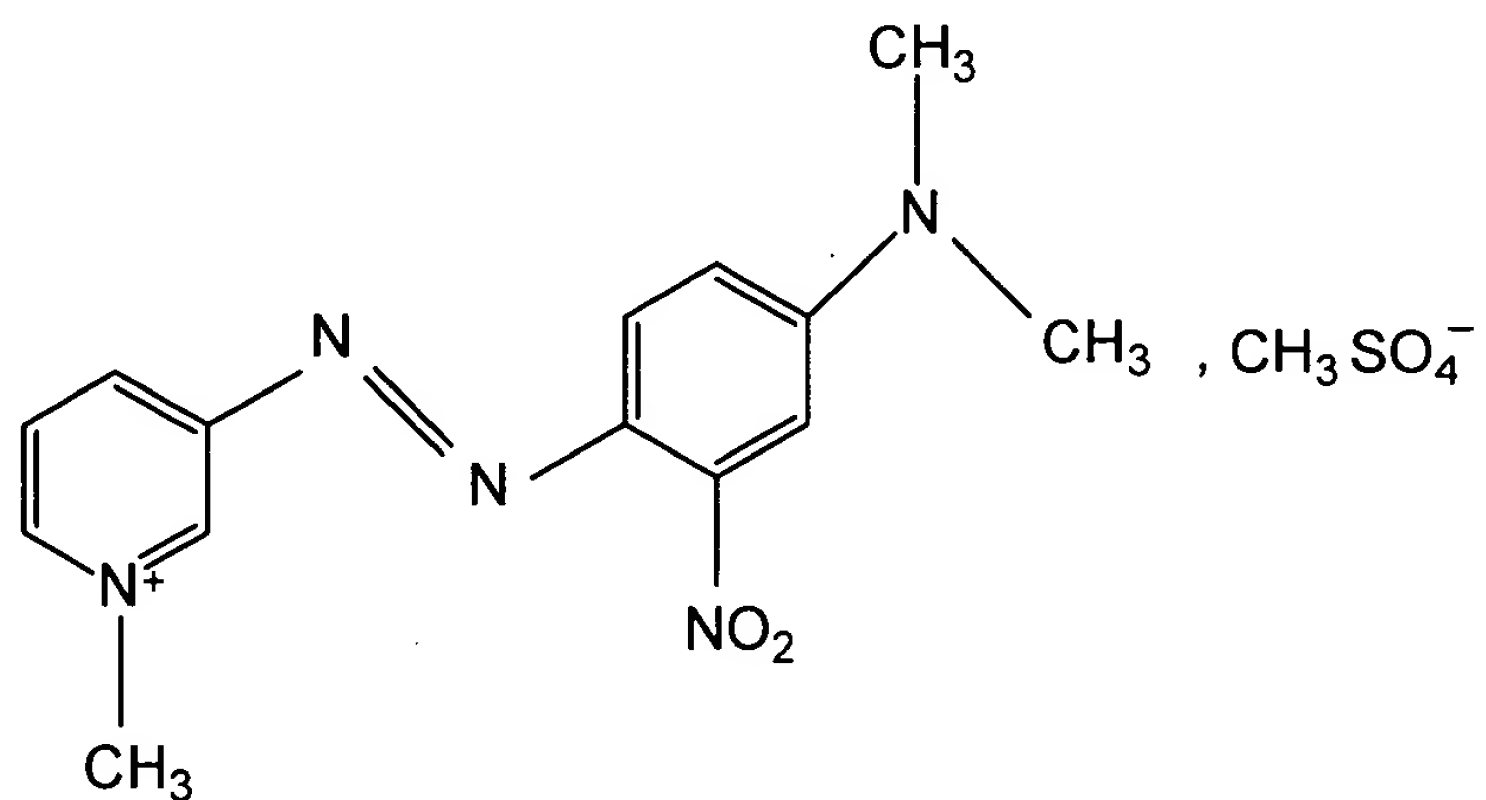
- 4'-bis(b-hydroxyethyl)aminobenzene-1'-azo-1-methyl-3-pyridinium methosulphate
of formula:



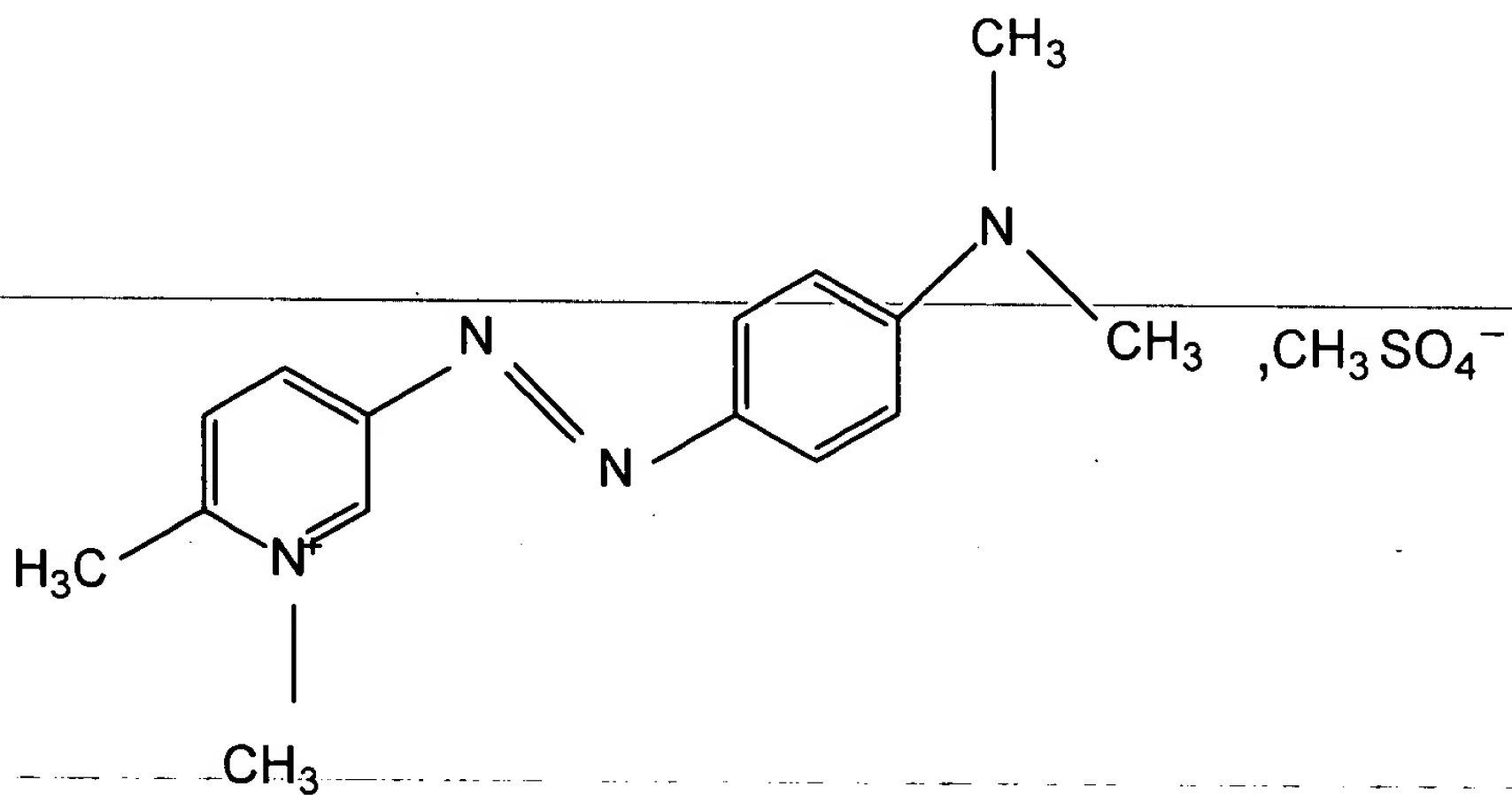
4'-amino-8-hydroxynaphthalene-1'-azo-1-methyl-3-pyridinium methosulphate of formula:



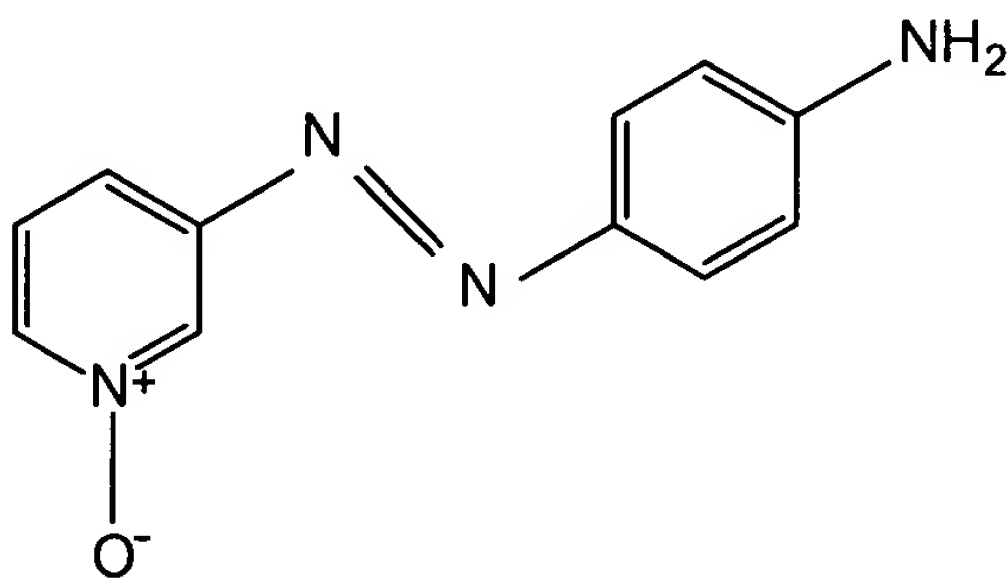
- 4'-dimethylamino-2'-nitrobenzene-1'-azo-1-methyl-3-pyridinium methosulphate of formula:



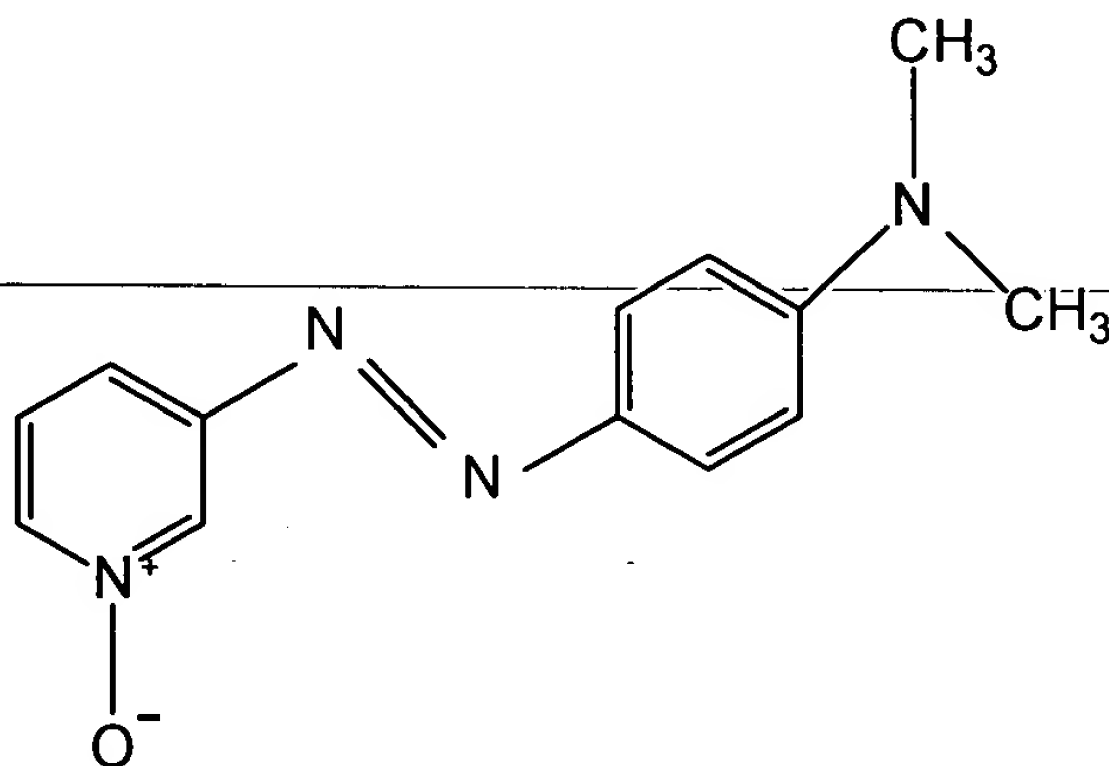
- 4'-dimethylaminobenzene-1'-azo-1,6-dimethyl-3-pyridinium methosulphate of formula:



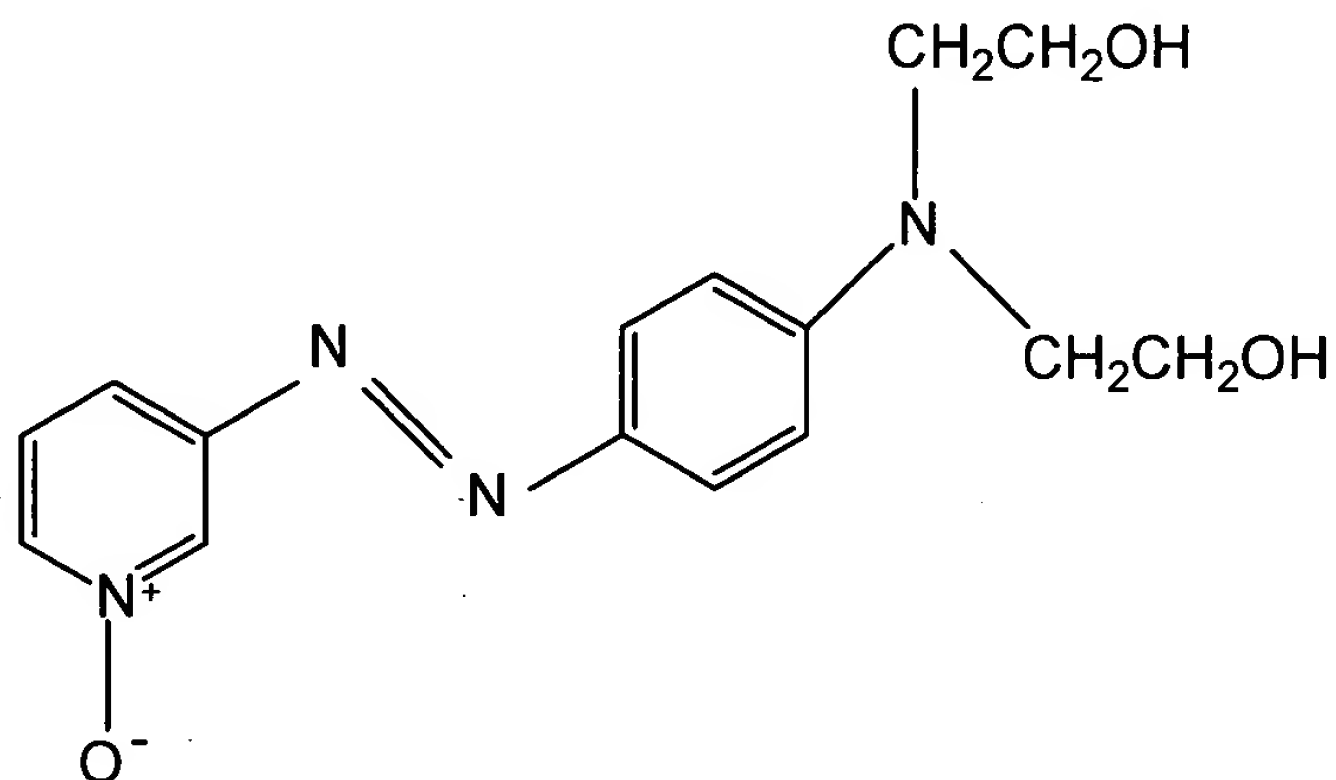
- 4'-aminobenzene-1'-azo-3-pyridine N-oxide of formula:



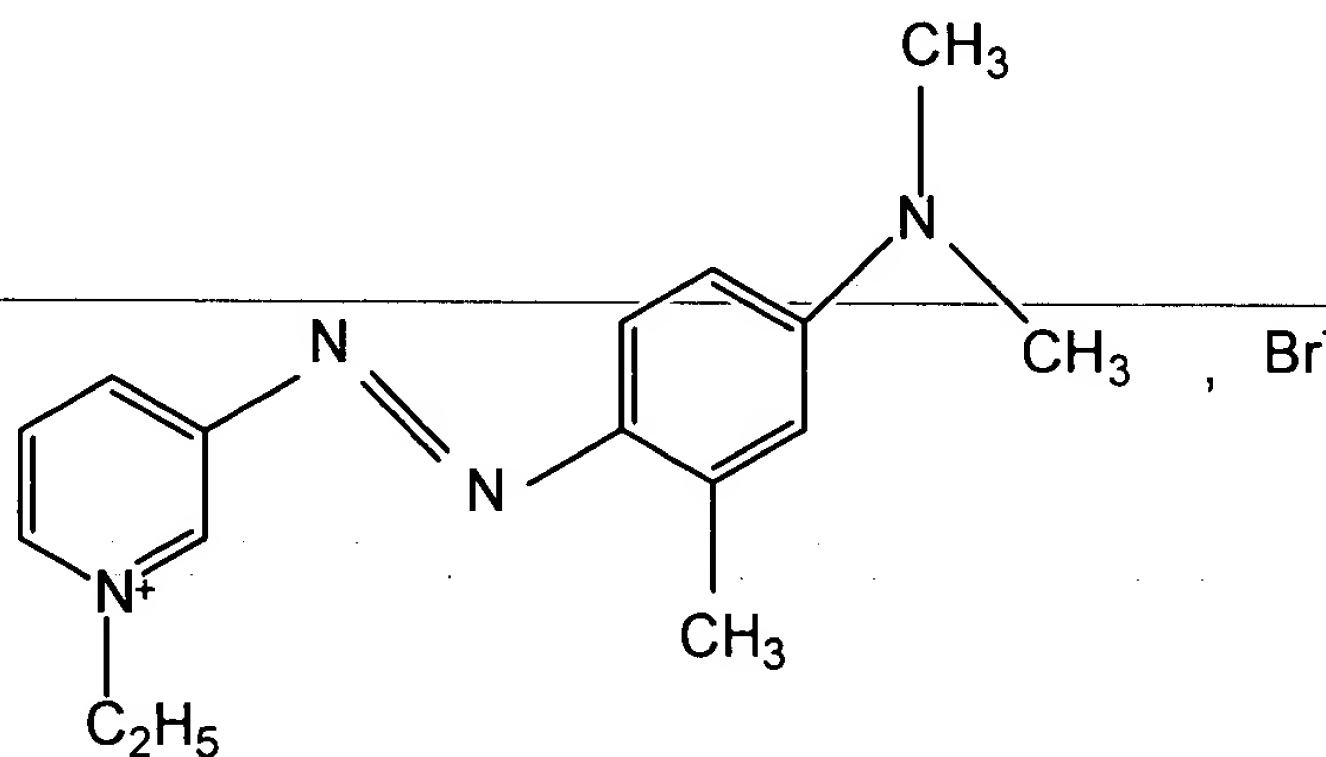
- 4'-dimethylaminobenzene-1'-azo-3-pyridine N-oxide of formula:



- 4'-N,N-bis(b-hydroxyethyl)aminobenzene-1'-azo-3-pyridine N-oxide of formula:



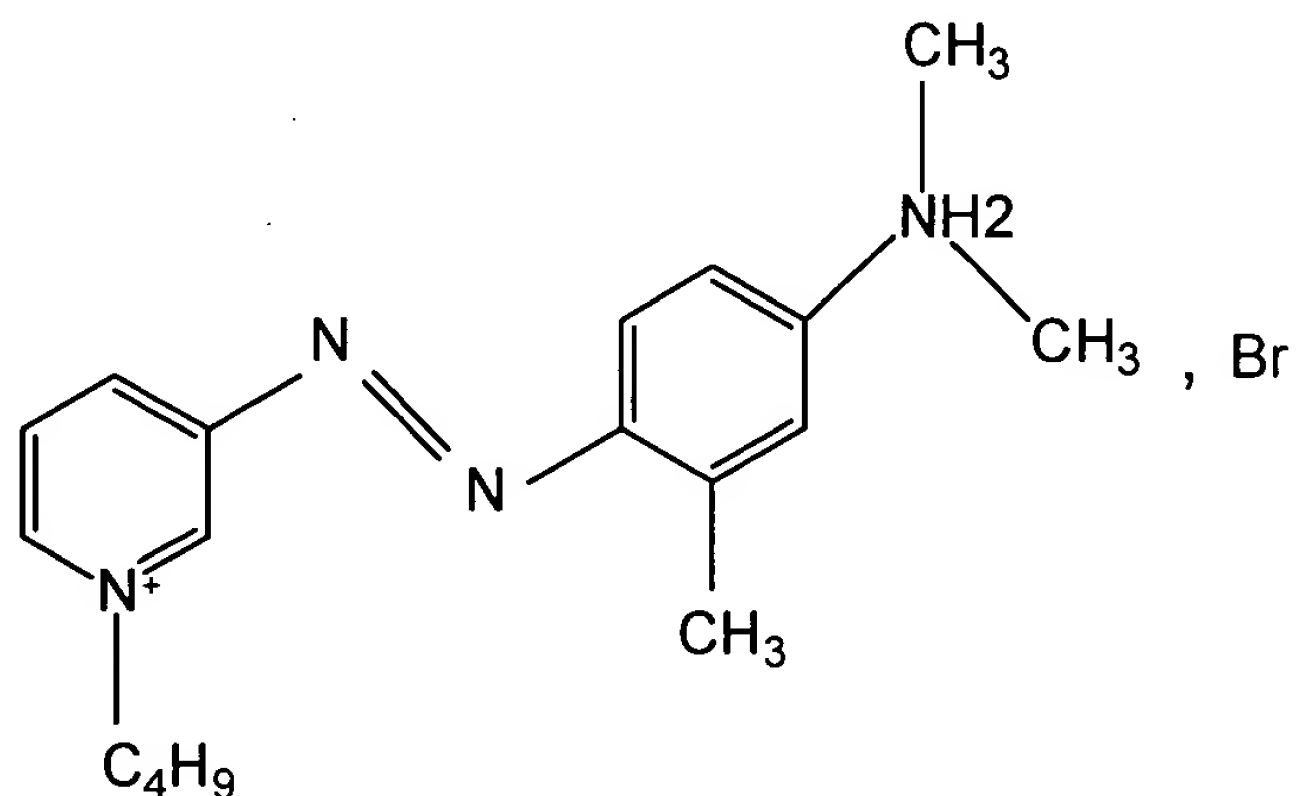
4'-dimethylamino-2'-methylbenzene-1'-azo-1-ethyl-3-pyridinium ethosulphate of formula:



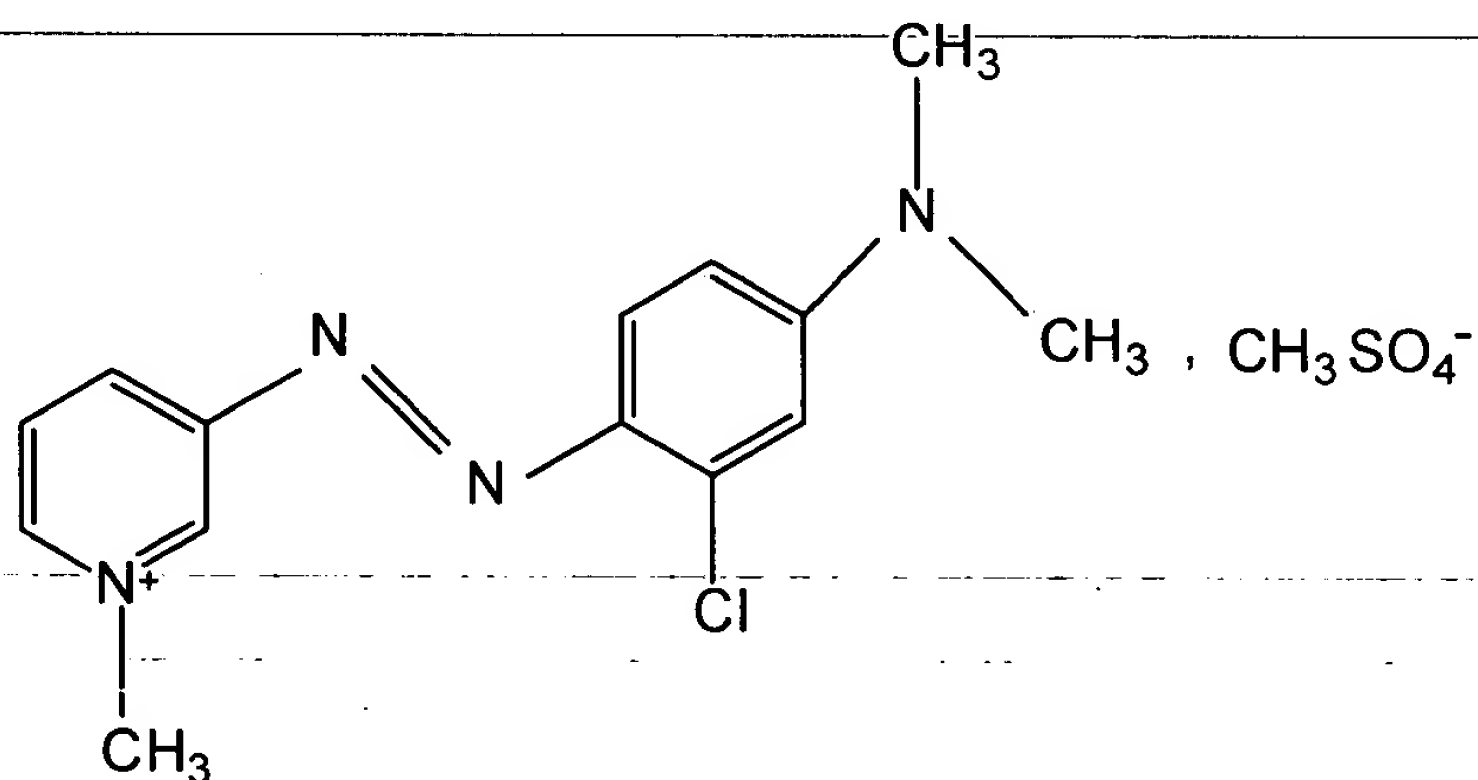
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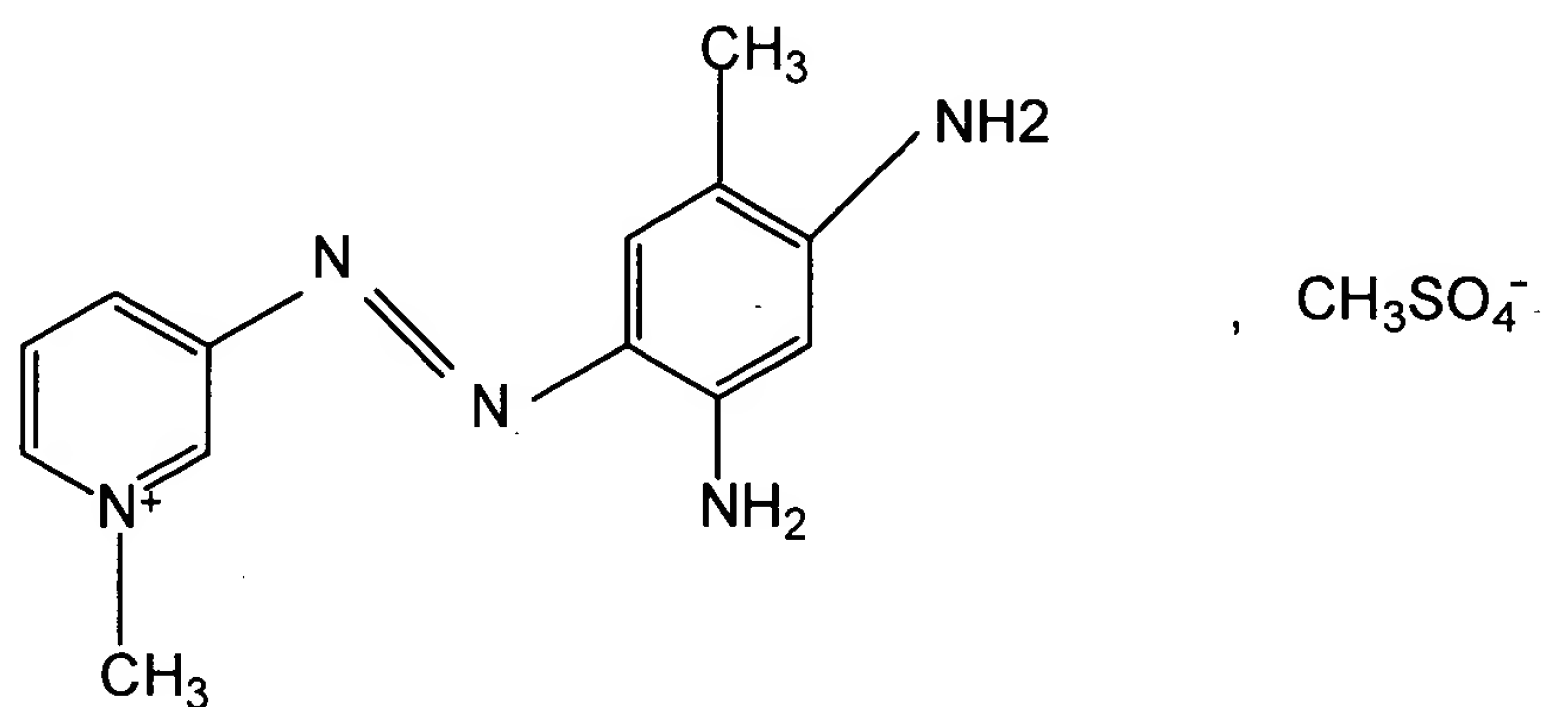
- 4'-dimethylamino-2'-methylbenzene-1'-azo-1-butyl-3-pyridinium bromide of formula:



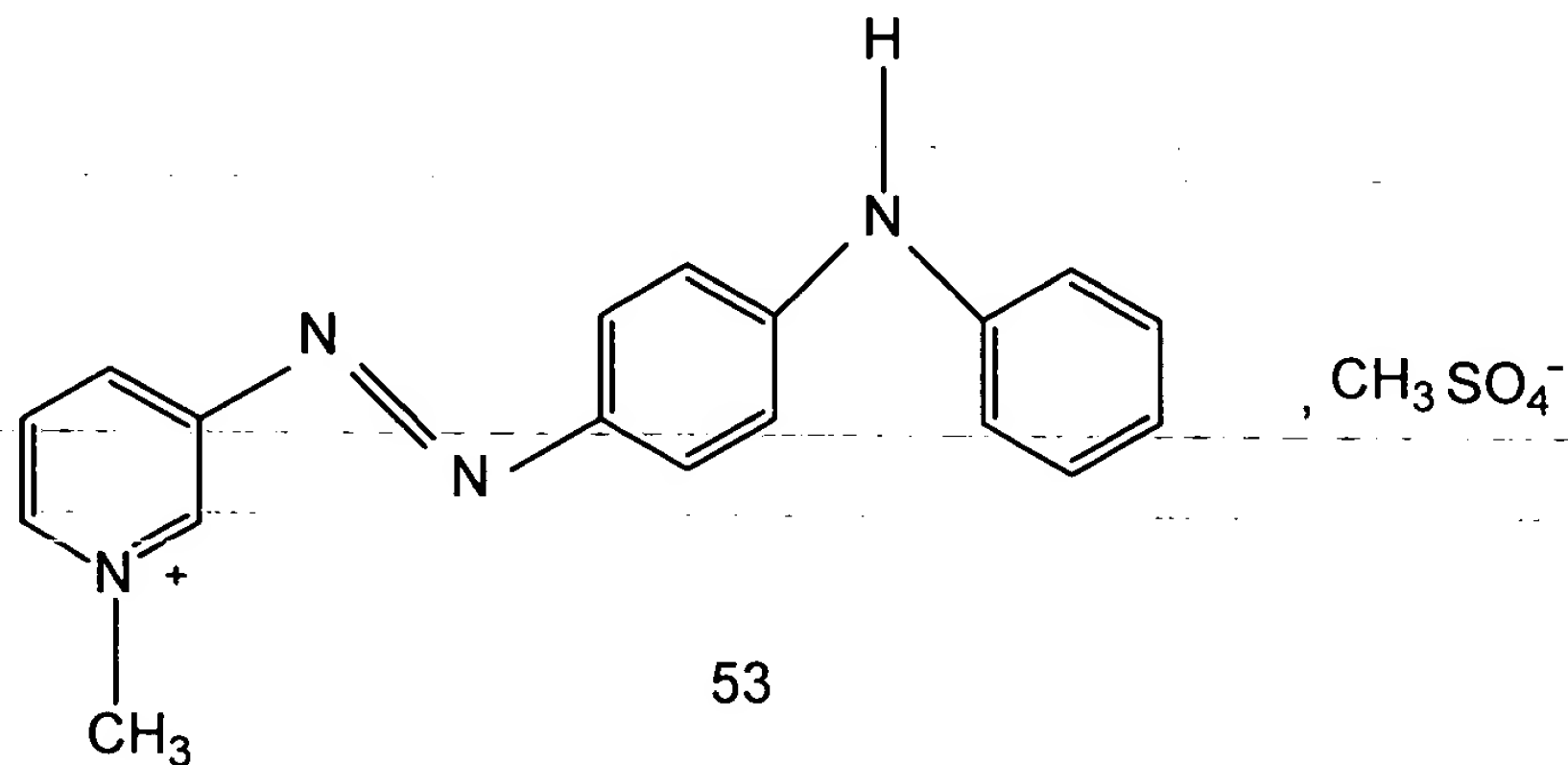
- 4'-dimethylamino-2'-chlorobenzene-1'-azo-1-methyl-3-pyridinium methosulphate of formula:



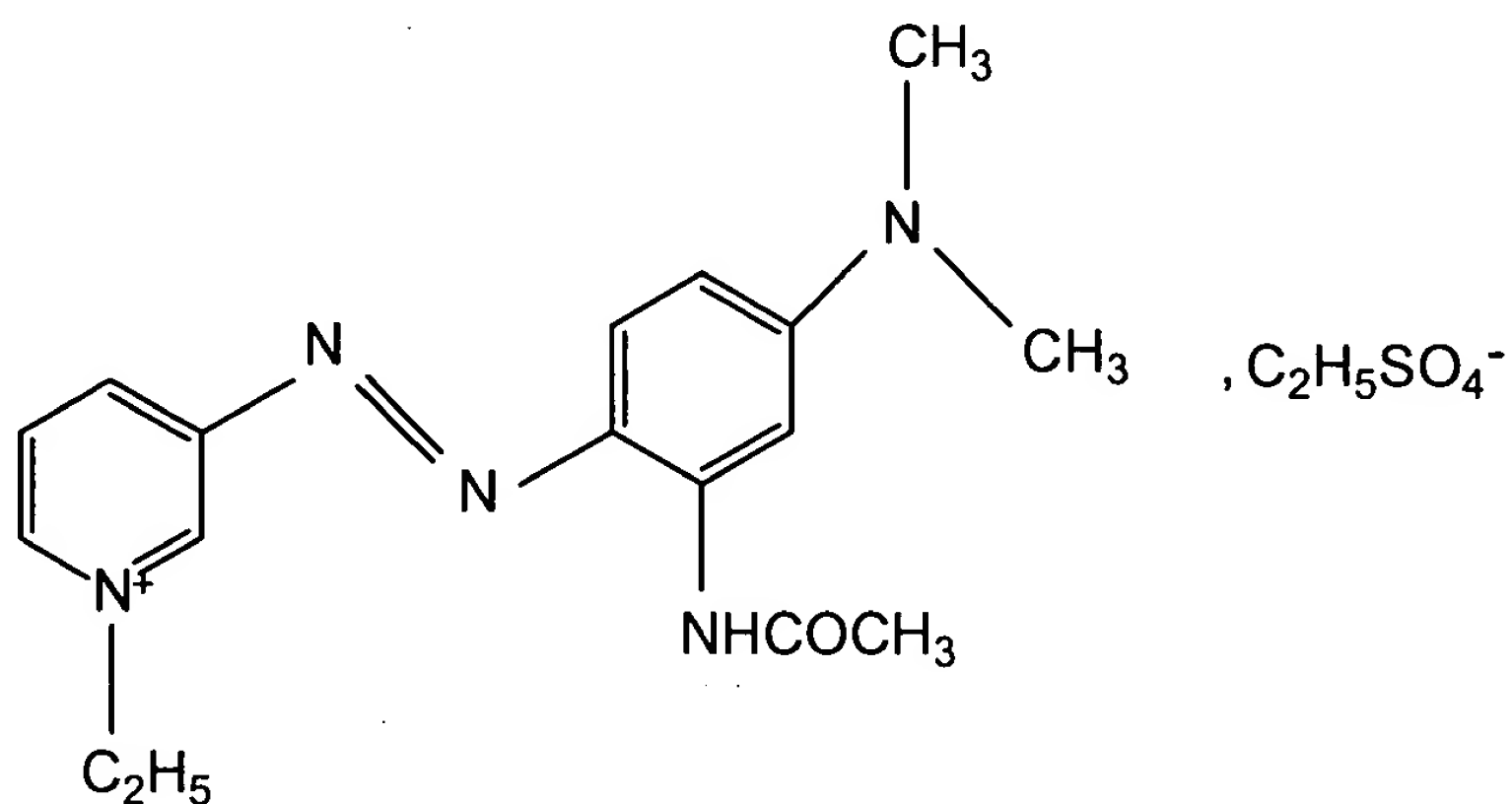
-2',4'-diamino-5'-methylbenzene-1'-azo-1-methyl-3-pyridinium methosulphate of formula:



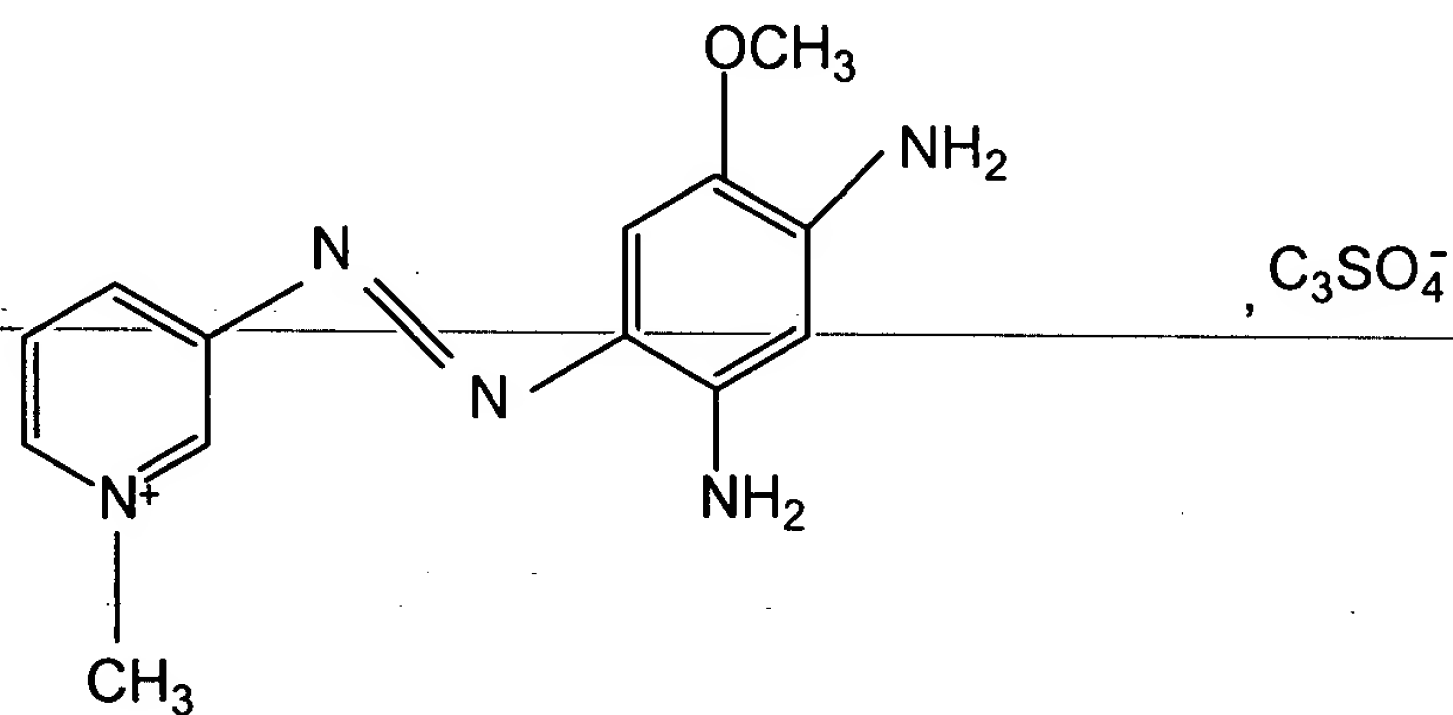
- 4'-phenylaminobenzene-1'-azo-1-methyl-3-pyridinium methosulphate of formula:



- 2'-acetylamino-4'-dimethylaminobenzene-1'-azo-1-ethyl-3-pyridinium
ethosulphate of formula:

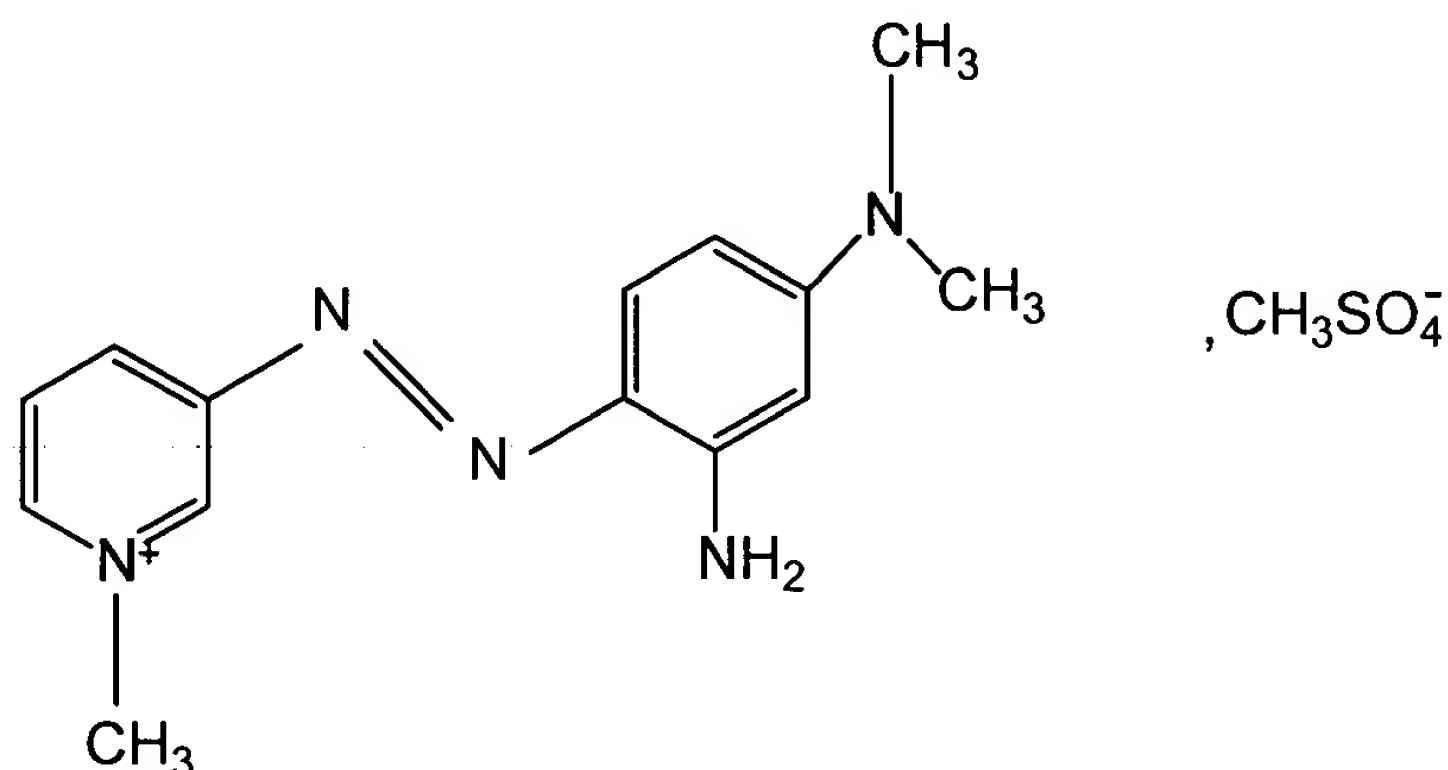


- 2',4'-diamino-5-methoxybenzene-1'-azo-1-methyl-3-pyridinium methosulphate of
formula:



and

- 2'-amino-4'-dimethylaminobenzene-1'-azo-1-methyl-3-pyridinium methosulphate of formula:



47. A composition according to Claim 26, wherein said at least one 3-amino-pyridine derivative of formula (I) is present in an amount ranging from about 0.001 to about 10% by weight relative to the total weight of the dye composition.

48. A composition according to Claim 47, wherein said at least one 3-aminopyridine derivative of formula (I) is present in an amount ranging from about 0.01 to about 5% by weight relative to the total weight of the dye composition.

49. A composition according to Claim 26, wherein said meta-aminophenol derivative of formula (II) is chosen from 5-amino-2-methoxyphenol, 5-amino-2-(b-hydroxyethyloxy)phenol, 5-amino-2-methylphenol, 5-N-(b-hydroxyethyl)amino-2-methylphenol, 5-N-(b-hydroxyethyl)amino-4-methoxy-2-methylphenol, 5-amino-4-methoxy-2-methylphenol, 5-amino-4-chloro-2-methylphenol, 5-amino-2,4-dimethoxyphenol, 5-(g-hydroxypropylamino)-2-methylphenol,

3-amino-2-chloro-6-methylphenol, 3-amino-6chlorophenol,
3-(b-aminoethyl)amino-6-chlorophenol, and an addition salt thereof with an acid.

50. A composition according to Claim 26, wherein said meta-aminophenol derivative of formula (II) is present in an amount ranging from about 0.0001 to about 10% by weight relative to the total weight of the dye composition.

51. A composition according to Claim 50, wherein said meta-aminophenol derivative of formula (II) is present in an amount ranging from about 0.005 to about 5% by weight relative to the total weight of the dye composition.

52. A composition according to Claim 26, further comprising at least one coupler other than said meta-aminophenol derivative of formula (II), at least one direct dye other than said 3-aminopyridine derivatives of formula (I), or a mixture thereof.

53. A composition according to Claim 26, wherein said addition salt with an acid is chosen from a hydrochloride, a hydrobromide, a sulphate, a tartrate, a lactate and an acetate.

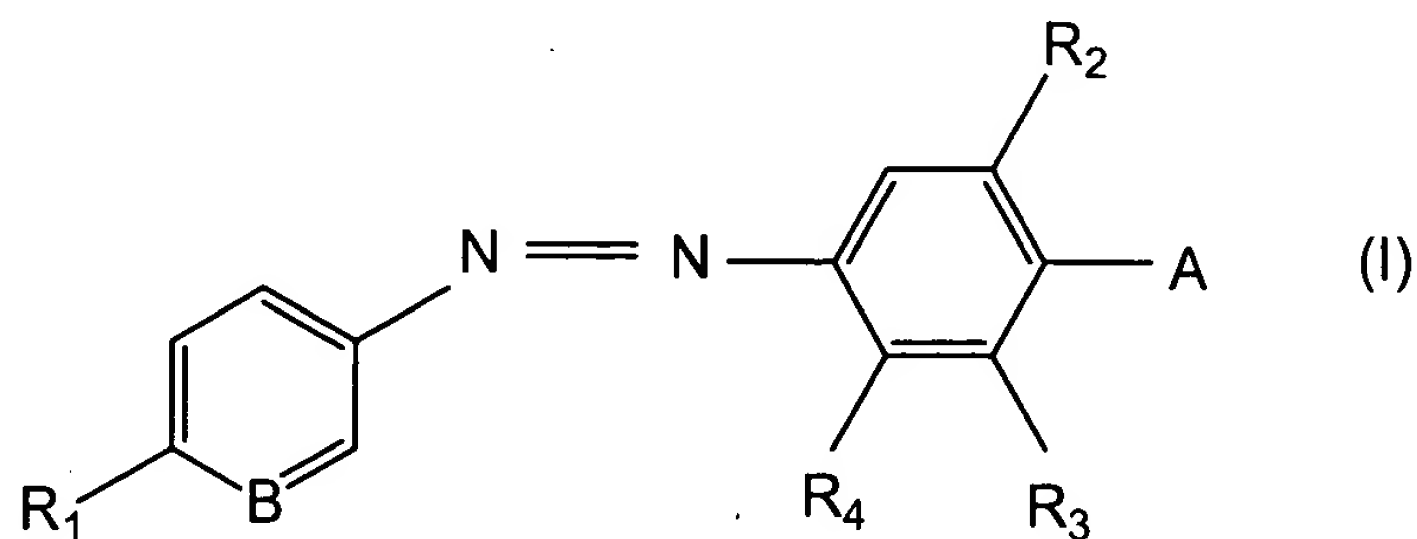
54. A composition according to Claim 26, wherein said composition is in a medium suitable for dyeing.

55. A composition according to Claim 54, wherein said medium suitable for dyeing comprises water or a mixture of water and at least one organic solvent.

56. A composition according to Claim 26, wherein said composition has a pH ranging from about 3 to about 12.

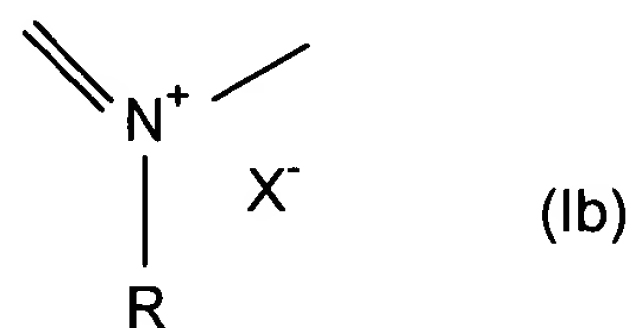
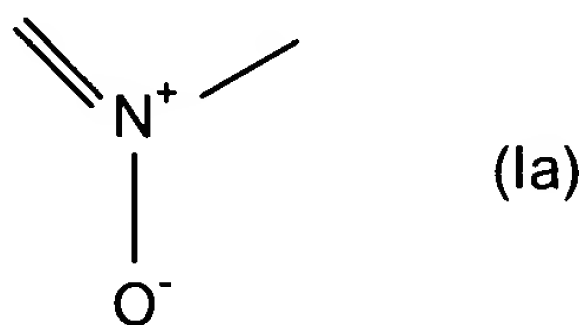
57. A process for dyeing keratin fibers comprising: 1) applying at least one dye composition to keratin fibers, wherein said at least one dye composition comprises
a) at least one oxidation base,

b) as a direct dye, at least one 3-aminopyridine derivative chosen from the compounds of formula (I):



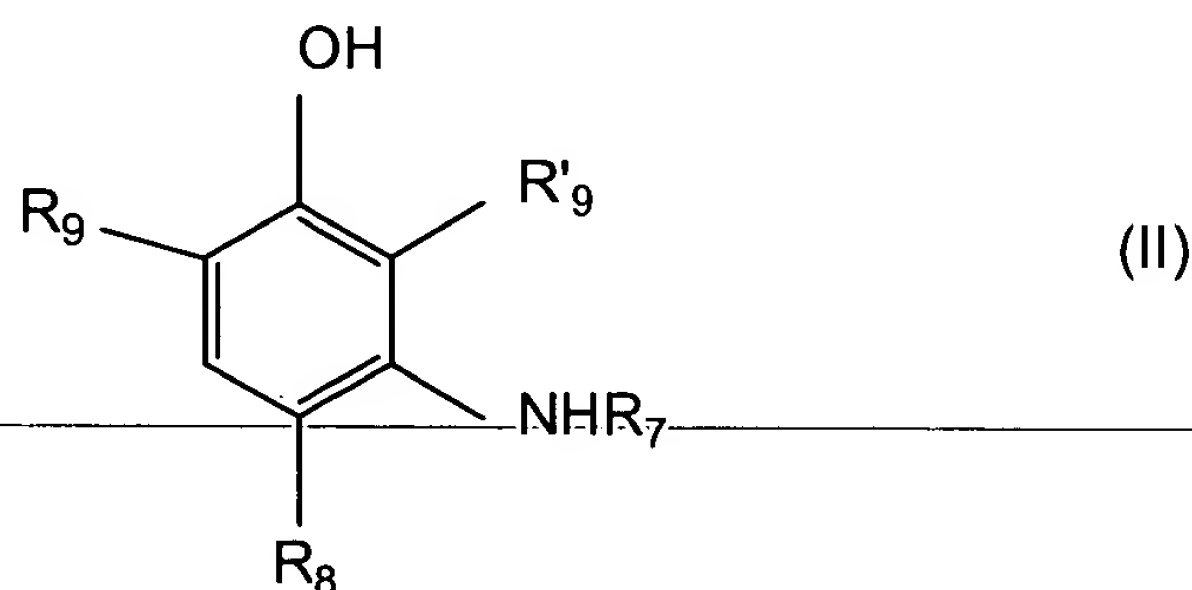
in which:

- B is chosen from formula (Ia) and (Ib):



- R is a C₁-C₄ alkyl radical;
- R₁ is chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, and a C₁-C₄ alkoxy radical;

- R_2 is chosen from a hydrogen atom, a C_1 - C_4 alkyl radical, and a C_1 - C_4 alkoxy radical;
 - R_4 is chosen from a hydrogen atom, a halogen atom, a C_1 - C_4 alkyl radical, a nitro, an amino radical and a $(C_1$ - $C_4)$ acylamino radical;
 - R_3 is a hydrogen atom, or R_4 and R_3 together form a 6-membered unsaturated ring bearing a hydroxyl substituent chelated with one of the nitrogen atoms of the azo double bond;
 - A is a residue $-NR_5A_6$ in which R_5 is chosen from a hydrogen atom, a C_1 - C_4 alkyl radical, a C_1 - C_4 monohydroxyalkyl radical and a C_2 - C_4 polyhydroxyalkyl radical and R_6 is chosen from a hydrogen atom, a C_1 - C_4 alkyl radical, a C_1 - C_4 monohydroxyalkyl radical, a C_2 - C_4 polyhydroxyalkyl radical, a phenyl ring and a $-CH_2-SO_3Na$ radical;
 - X^- is chosen from a monovalent anion and a divalent anion, and
- c) at least one coupler chosen from a meta-aminophenol derivative of formula (II), and an addition salt thereof with an acid:



in which:

- R₇ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical and a C₁-C₄ monoaminoalkyl radical;
 - R₈ is chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical and a C₁-C₄ alkoxy radical;
 - R₉ and R'₉, which are identical or different, are chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, a C₁-C₄ alkoxy radical, a C₁-C₄ monohydroxyalkyl radical, a C₂-C₄ polyhydroxyalkyl radical, a C₁-C₄ monohydroxyalkoxy radical and a C₂-C₄ polyhydroxyalkoxy radical;
- with the proviso that at least one of the substituents R₇, R₈, R₉ and R'₉ is not a hydrogen atom; and
- 2) developing a color at an acidic, neutral or alkaline pH with the aid of an oxidizing agent, wherein said oxidizing agent is added to said at least one dye composition at the time of application of said at least one dye composition, or wherein said oxidizing agent is present in an oxidizing composition, and wherein said oxidizing composition is applied simultaneously or sequentially with said at least one dye composition.

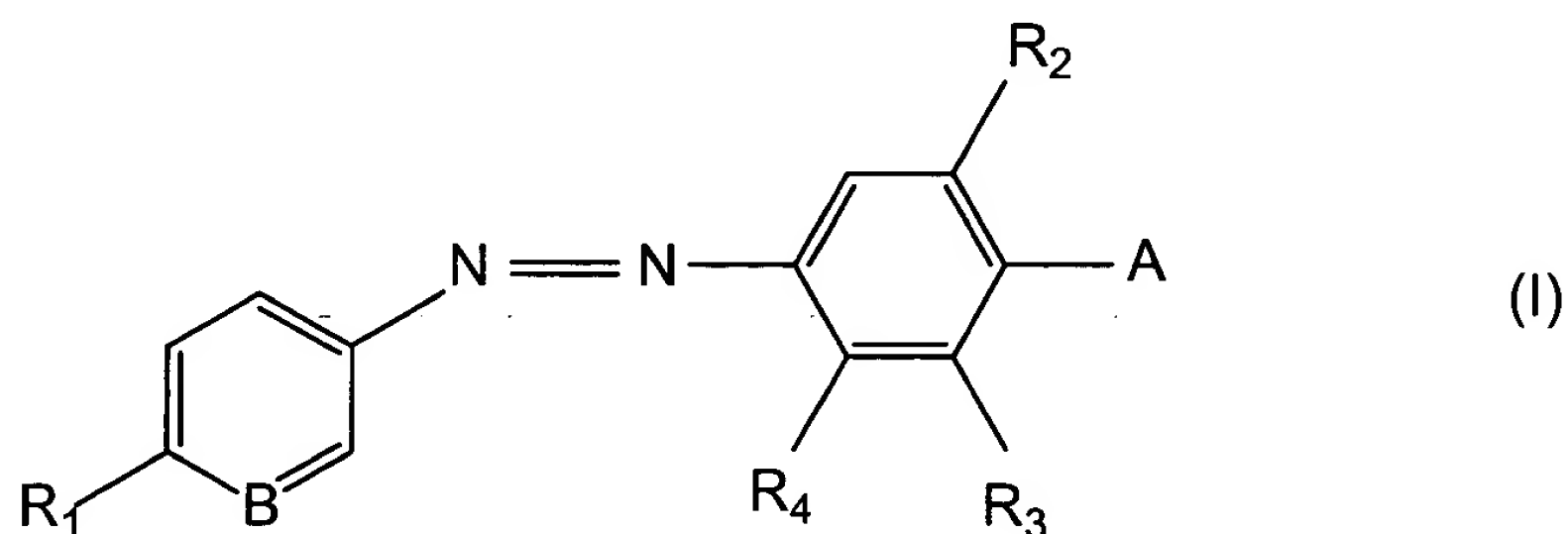
58. A process according to Claim 57, wherein said oxidizing agent present in the oxidizing composition is chosen from hydrogen peroxide, urea peroxide, alkali metal bromates, persalts, peracids and enzymes.

59. A process according to Claim 58, wherein said persalts are chosen from perborates, percarbonates and persulphates.

60. A multi-compartment dyeing device or kit comprising at least two compartments, wherein one compartment comprises an oxidizing composition, and

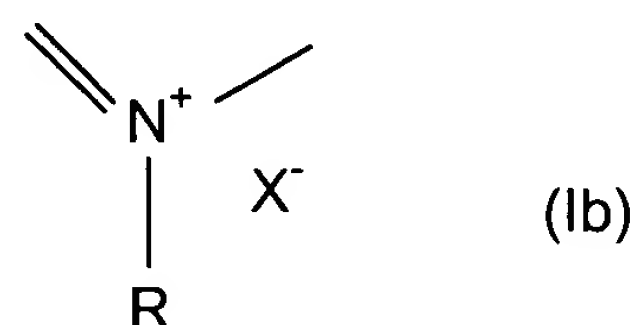
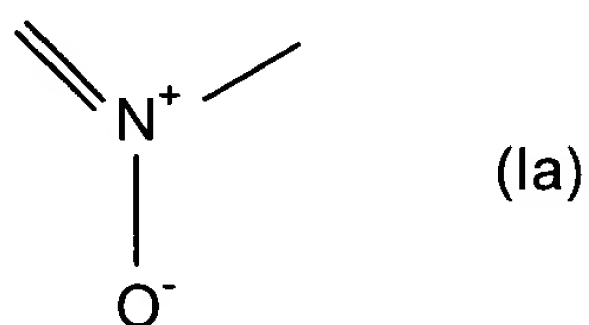
another compartment comprises at least one dye composition, wherein said at least one dye composition comprises

- a) at least one oxidation base,
- b) as direct dye, at least one 3-aminopyridine derivative chosen from the compounds of formula (I):



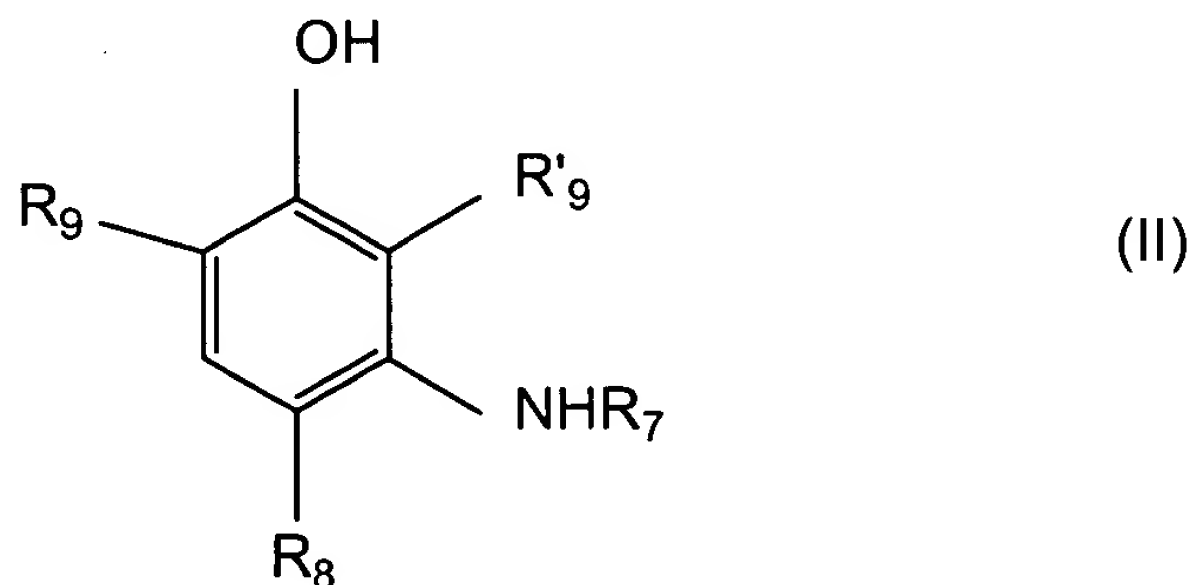
in which:

- B is chosen from formula (Ia) and (Ib):



- R is a C₁-C₄ alkyl radical;
- R₁ is chosen from a hydrogen atom, a halogen atom, a C₁-C₄ alkyl radical, and a C₁-C₄ alkoxy radical;
- R₂ is chosen from a hydrogen atom, a C₁-C₄ alkyl radical, and a C₁-C₄ alkoxy radical;

- R_4 is chosen from a hydrogen atom, a halogen atom, a C_1 - C_4 alkyl radical, a nitro, an amino radical and a (C_1-C_4) acylamino radical;
 - R_3 is a hydrogen atom, or R_4 and R_3 together form a 6-membered unsaturated ring bearing a hydroxyl substituent chelated with one of the nitrogen atoms of the azo double bond;
 - A is a residue $-NR_5R_6$ in which R_5 is chosen from a hydrogen atom, a C_1 - C_4 alkyl radical, a C_1 - C_4 monohydroxyalkyl radical and C_2 - C_4 polyhydroxyalkyl radical and R_6 is chosen from a hydrogen atom, a C_1 - C_4 alkyl radical, a C_1 - C_4 monohydroxyalkyl radical, a C_2 - C_4 polyhydroxyalkyl radical, a phenyl ring and a $-CH_2-SO_3Na$ radical;
 - X^- is chosen from a monovalent anion and a divalent anion, and
- c) at least one coupler chosen from a meta-aminophenol derivative of formula (II), and an addition salt thereof with an acid:



in which:

- R_7 is chosen from a hydrogen atom, a C_1 - C_4 alkyl radical, a C_1 - C_4 monohydroxyalkyl radical, a C_2 - C_4 polyhydroxyalkyl radical and a C_1 - C_4 monoaminoalkyl radical;

- R_8 is chosen from a hydrogen atom, a halogen atom, a C_1 - C_4 alkyl radical and a C_1 - C_4 alkoxy radical;
- R_9 and R'_9 , which are identical or different, are chosen from a hydrogen atom, a halogen atom, a C_1 - C_4 alkyl radical, a C_1 - C_4 alkoxy radical, a C_1 - C_4 monohydroxyalkyl radical, a C_2 - C_4 polyhydroxyalkyl radical, a C_1 - C_4 monohydroxyalkoxy radical and a C_2 - C_4 polyhydroxyalkoxy radical;

with the proviso that at least one of the substituents R_7 , R_8 , R_9 and R'_9 , is not a hydrogen atom.

Appendix II

Ex parte Maubru, Appeal No. 2003-0617 (BdPatApp&Int 2003)

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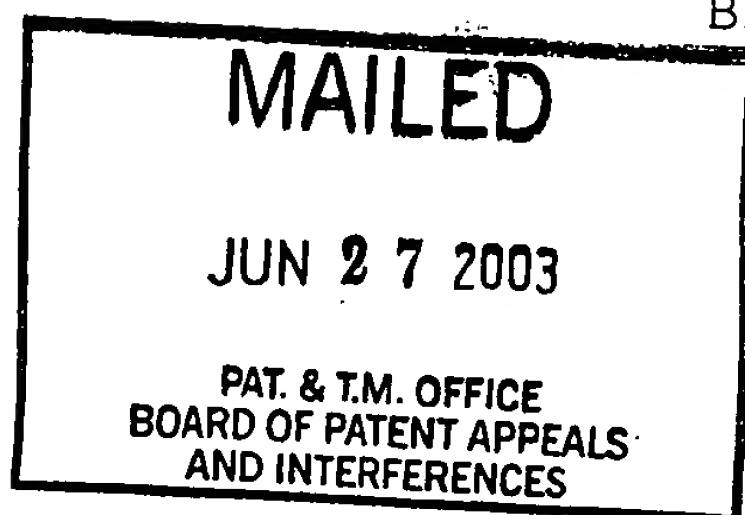
TLI/TNW/MF1

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.



aper No. 36

UNITED STATES PATENT AND TRADEMARK OFFICE



BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MIREILLE MAUBRU

Appeal No. 2003-0617
Application No. 09/319,164

HEARD: June 11, 2003

RECEIVED

JUN 10 2003

FINNEGAN, HENDERSON, FARABOW,
GARRETT AND DUNNER, LLP

Before PAK, OWENS, and POTEATE, *Administrative Patent Judges*.

POTEATE, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 39-102, which are all of the claims pending in the application.

6-30-03 6/30/03

Appeal No. 2003-0617
Application 09/319,164

Claim 39 is representative of the subject matter on appeal and is reproduced below:

39. A ready-to-use composition for the oxidation dyeing of keratin fibers, comprising:

- at least one oxidation base,
- at least one ether chosen from C₄-C₈ ethers of C₂ glycols and C₁-C₈ ethers of C₃-C₉ glycols,
- at least one enzyme chosen from 2-electron oxidoreductases, and
- at least one donor for said at least one enzyme.

The references relied upon by the examiner are:

Tsujino et al. (Tsujino)	4,961,925	Oct. 9, 1990
Cotteret	5,391,206	Feb. 21, 1995
Wella Aktiengesellschaft (Wella) (European patent)	EP 795,313	Sept. 17, 1997

GROUND OF REJECTION

1. Claims 39-102 stand rejected under 35 U.S.C. § 103 as unpatentable over Cotteret in view of Tsujino.

2. Claims 39-102 stand rejected under 35 U.S.C. § 103 as unpatentable over Wella in view of Cotteret.

We reverse as to both grounds of rejection.

BACKGROUND

The present invention relates to a composition for the oxidation dyeing of keratin fibers such as hair. Specification, page 1, lines 3-5. It is known in the art to dye keratin fibers with dye compositions containing oxidation dye precursors such as ortho- or para-phenylenediamines, ortho- or para-aminophenols and heterocyclic bases. *Id.* at lines 13-18. When combined with oxidizing products, these precursors may give rise to colored compounds and dyes through a process of oxidative condensation. *Id.* at lines 20-22. The resultant shades of color can be varied by combining the oxidation bases with couplers or color modifiers. *Id.* at lines 23-25.

Prior art processes for the oxidation dyeing of keratin fibers are typically carried out in an alkaline medium in the presence of hydrogen peroxide. *Id.*, page 2, lines 17-19. A drawback of using an alkaline medium in the presence of hydrogen peroxide is that it causes appreciable degradation of the fibers as well as considerable bleaching of the fibers, which may not be desirable. *Id.* at lines 19-23. The inventors have discovered that it is possible to obtain dyes which are capable of providing

intense and chromatic colorations without giving rise to significant degradation of the fibers by combining at least one oxidation base, at least one C₄-C₈ ether of a C₂ glycol and/or at least one C₁-C₈ ether of C₃-C₉ glycol and at least one enzyme of 2-electron oxidoreductase type in the presence of at least one donor for the enzyme. *Id.*, page 3, lines 13-24.

DISCUSSION

The initial burden of presenting a *prima facie* case of obviousness rests on the examiner. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). In order to establish a *prima facie* case of obviousness, the examiner must identify a suggestion or motivation to modify the teachings of the cited references to achieve the claimed invention. *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316-17 (Fed. Cir. 2000). The suggestion or motivation to modify a reference may be implicit from the prior art as a whole rather than expressly stated. *Id.* However, regardless of whether the examiner relies on an express or implicit showing, he must provide reasons for finding a limitation to be taught or suggested in the reference. *Id.*

**1. Rejection of claims 39-102 under 35 U.S.C. § 103
as obvious over Cotteret in view of Tsujino**

Cotteret discloses a hair dye composition which includes an oxidation base, hydrogen peroxide and either ethylene glycol monobutyl ether or propylene glycol monomethyl ether. Tsujino is relied on for a disclosure of a hair dye composition which utilizes an enzyme/donor system. According to the examiner, it would have been obvious to have substituted the hydrogen peroxide of Cotteret with the enzyme/donor system of Tsujino. See Appeal Brief, Paper No. 28, received September 3, 2002, page 5. According to the examiner, the motivation to modify Cotteret's composition is found in Tsujino's disclosure of decreased skin irritation while maintaining equivalent dyeing properties when hydrogen peroxide is replaced with an enzyme/donor system. See Examiner's Answer, Paper No. 29, mailed November 15, 2002, page 4 (referencing Tsujino's test data).

As pointed out by appellants, Cotteret and Tsujino have conflicting pH requirements. See Reply Brief, Paper No. 30, received January 22, 2003, page 5. Cotteret teaches that, "[t]he pH of the composition applied to the keratinous fibers, in particular the hair, has a value of below 7 and is preferably

between 3 and 6.9." Column 3, lines 37-39. In contrast, Tsujino's compositions are adjusted to a minimum of pH 7. Thus, while Tsujino suggests that equivalent dyeing properties may be achieved when hydrogen peroxide is replaced with an enzyme/donor system in an alkaline environment, there is no evidence that compositions containing enzymes would provide equivalent or better effects on finish or dyeing properties at a pH below 7, i.e., Cotteret's required pH. As further pointed out by appellants, Cotteret does not indicate that reduced skin irritation is of concern, or a desired objective in regard to his hair dye composition. See Appeal Brief, page 13.

Given the conflicting pH requirements of Cotteret and Tsujino and the absence of any discussion of skin irritation problems in Cotteret, we cannot agree with the examiner that one of ordinary skill in the art, in considering Cotteret's composition, would have been motivated to replace hydrogen peroxide with an enzyme/donor system as taught by Tsujino.

Accordingly, the rejection is reversed.

**2. Rejection of claims 39-102 under 35 U.S.C. § 103
as unpatentable over Wella¹ in view of Cotteret**

Wella discloses compositions comprising an oxidation base, an enzyme, a donor and 1,2-propanediol and glycerol. See Appeal Brief, page 18. According to the examiner, it would have been obvious to have substituted the propanediol and/or glycerol with a glycol ether, such as the presently claimed propylene glycol monomethyl ether because Cotteret teaches the equivalence of propanediol and glycol ethers in oxidative hair dying compositions. *See id.*, pages 18-19; Examiner's Answer, page 6.

As correctly pointed out by appellants, the fact that Cotteret may establish the equivalence of the solvents for one purpose is not sufficient to establish their equivalency for all

¹The examiner's rejection is based upon a German language document. Neither the examiner nor appellants have obtained English translations of this document. Rather, appellants reference U.S. Patent No. 5,849,041 which they believe to be the U.S. counterpart to Wella. See Appeal Brief, page 18, footnote 1. The examiner has not objected to appellants' ~~reliance on this document in traversing this rejection.~~ Moreover, the relevant portions of the German language document appear to correspond with the U.S. counterpart. Accordingly, we have concluded that it is unnecessary to remand this application to the examiner to consider the full text translation of the European patent document relied upon in the rejection. In the future however, the examiner should obtain a full text translation of any foreign language document relied upon in rejecting the claims.

Appeal No. 2003-0617
Application 09/319,164

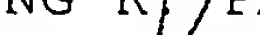
purposes. See Appeal Brief, pages 19-21. As further noted by appellants, the Federal Circuit has expressly declined to adopt a *per se* rule that the disclosure of a chemical genus renders obvious the selection of any species that happens to fall within it. See Appeal Brief, page 22 (*citing In re Jones*, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992)). The examiner has simply failed to identify any teaching or suggestion in the prior art which would have motivated one of ordinary skill in the art to have substituted the propanediol and/or glycerol of Wella's compositions with one of the claimed glycol ethers.

Accordingly, the rejection is reversed.

Appeal No. 2003-0617
Application 09/319,164

In sum, we reverse the rejections on the basis that the examiner has failed to establish a *prima facie* case of obviousness.

REVERSED


CHUNG K. PAK
Administrative Patent Judge

TERRY J. OWENS
TERRY J. OWENS
Administrative Patent Judge

BOARD OF PATENT
APPEALS
AND
INTERFERENCES

Linda R. Poteate
LINDA POTEATE
Administrative Patent Judge

LRP : psb

Appeal No. 2003-0617
Application 09/319,164

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